Leica Viva GNSS
Equipment List

- when it has to be **right**

Leica Geosystems

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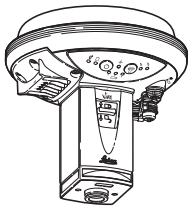
GS15 GNSS Receiver

1 GS15 GNSS Receiver



771 501	**GS15**	**Leica GS15 Single Frequency SmartAntenna**
767 789	**GS15**	**Leica GS15 Basic SmartAntenna**
771 502	**GS15**	**Leica GS15 Limited SmartAntenna**
771 503	**GS15**	**Leica GS15 Performance SmartAntenna**
771 504	**GS15**	**Leica GS15 Professional SmartAntenna**

	Leica GS15 Single Frequency	Leica GS15 Basic	Leica GS15 Limited	Leica GS15 Perform-ance	Leica GS15 Profes-sional
Supported GNSS Systems					
GPS L2	○	●	●	●	●
GPS L5	○	○	○	○	●
GLONASS	○	○	○	○	●
Galileo	○	○	○	○	●
RTK performance					
DGPS	○	○	●	●	●
RTK up to 5km	○	○	●	●	●
RTK unlimited	○	○	○	●	●
Network RTK	○	○	○	●	●
Leica Lite RTK	○	○	○	○	●
Position update & data recording					
5 Hz positioning	●	○	●	●	●
20 Hz positioning	○	○	○	●	●
Raw data logging	●	○	●	●	●
RINEX logging	○	○	○	○	●
NMEA out	○	○	○	○	●
Additional features					
RTK Reference Station functionality	○	○	○	●	●

● Standard
○ Optional

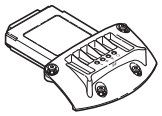
1.1 Producer Certificates for GS15 Receiver

366 358	**GDI33**	Producer Certificate O.

2 Additional GS15 Receiver Options

GNSS software options		
771 500	**LOP19**	GPS L2 option, enables GPS L2 and GPS L2C tracking on a GS10, GS15 or GS25 receiver.
767 804	**LOP1**	GPS L5 option, enables GPS L5 tracking on a GS10, GS15 or GS25 receiver.
767 805	**LOP2**	GLONASS option, enables GLONASS tracking on a GS10, GS15 or GS25 receiver.
767 806	**LOP3**	Galileo option, enables Galileo tracking on GS10, GS15 or GS25 receiver.
Position rate and data recording options		
767 807	**LOP4**	5Hz option, enables to compute positions with an update rate up to 5Hz.
767 808	**LOP5**	20Hz option, enables to compute positions with an update rate up to 20Hz.
767 809	**LOP6**	Upgrade option from 5Hz to 20Hz. (LOP4 to LOP5)
767 810	**LOP7**	Raw data option, allows logging of GNSS raw data on GS10, GS15 or GS25 receiver or on a CS10/CS15 field controller.
767 811	**LOP8**	RINEX option, allows logging of RINEX data on GS10, GS15 or GS25 receiver.
767 818	**LOP15**	NMEA out option, enables NMEA to be streamed from GS10, GS15 or GS25 receivers.
RTK related options		
771 497	**LOP16**	DGPS option for GS10, GS15 or GS25 receivers, enables the receiver to compute a DGPS position.
767 812	**LOP9**	5km RTK option, enables RTK positions to be computed up to a distance of 5km from a single base station.
767 813	**LOP10**	Unlimited RTK option, enables RTK positions to be computed from a single base station with no limit of distance.
767 814	**LOP11**	Upgrade from 5km RTK to unlimited RTK. (LOP9 to LOP10)
767 815	**LOP12**	Unlimited RTK and Network RTK, enables RTK position to be computed from a single base station and within a RTK network.
767 817	**LOP14**	Upgrade option for GS10, GS15 or GS25 receivers from RTK unlimited only to RTK unlimited including RTK Network. (LOP10 to LOP12)
771 971	**LOP20**	Leica Lite option, to receive GS09 RTK data on the GS10, GS15 or GS25 receivers.
Other options		
767 816	**LOP13**	RTK Reference station option, allows a GS10, GS15 or GS25 receiver to transmit RTK data.

3 RTK Modems



Satelline radio modules		
781 646	**SLR5**	Satelline M3 TR1 403-470 MHz RX/TX radio. RTK receive and transmit UHF radio module to be easily plugged into the GS15 GNSS receiver.
Pacific Crest radio modules		
767 821	**SLR3-1**	Pacific Crest ADL RX/TX radio 390-430 MHz. RTK receive and transmit UHF radio module to be easily plugged into the GS15 GNSS receiver.
767 822	**SLR3-2**	Pacific Crest ADL RX/TX radio 430-470 MHz. RTK receive and transmit UHF radio module to be easily plugged into the GS15 GNSS receiver.
6002544		Configuration tool kit for programming Satelline and Pacific Crest SLR RTK radio modules; includes programming cable GEV231 and configuration software CD ROM. ☞ SLR radios will be delivered pre-configured according to country-specific radio regulations. In countries where radios need to be configured locally, the configuration tool kit is to be used.

☞ External high power radios such as Satelline Epic Pro (10, 35W), Pacific Crest (2, 35W) or GFU radios can be used for RTK communication instead of the slot-in RTK modems.

Mobile phone modules		
767 823	**SLG1**	5-Band (850/900/1800/1900/2100 MHz) Telit 3.5G GSM/GPRS/UMTS module. Provides full flexibility due to 5-band technology and is globally compatible to all GSM, GPRS, EDGE and UMTS network providers. Can be easily plugged into the GS15 GNSS receiver.
774 689	**SLG2**	4-Band (850/900/1800/1900 MHz) Siemens MC75i GSM/GPRS module. Universal 4-band technology supports GSM, GPRS, and EDGE network providers. Can be easily plugged into the GS15 GNSS receiver.
767 824	**SLC1**	Dual band Telit CDMA 1xRTT module for US. Supports Sprint (US) network provider and can be easily plugged into the GS15 GNSS receiver.
767 825	**SLC2**	Dual band Telit CDMA 1xRTT module for US. Supports Verizon (US) network provider and can be easily plugged into the GS15 GNSS receiver.
Satelline High Power radios		
789 636	**HPR2**	Satelline-EASY Pro 35W high power radio, 403-473 MHz RX/TX radio. Includes power cable for connecting to 12V battery.
636 805	**GEV114**	Data cable to connect Satelline 3ASd Epic Pro (35W) high power radio to GS GNSS receiver.
639 964	**GAT1**	Gainflex radio antenna (frequence range 400-435 MHz).
667 243	**GAT2**	Gainflex radio antenna (frequence range 435-470 MHz).

4 External RTK Antennas

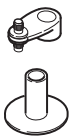
4.1 External RTK Antennas

The GS15 receiver is equipped with internal GSM/GPRS/UMTS antenna and internal UHF antenna as standard. In areas of poor GSM/GPRS/UMTS or UHF reception, the use of an external RTK antenna may improve reception.

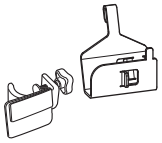
RTK antenna arm		
767 790	**GAD108**	Arm to mount external UHF/GSM antenna to GS15 SmartAntenna, useful in areas of poor radio or GSM network receiption.
Gainflex radio antennas		
639 964	**GAT1**	Gainflex radio antenna (frequence range 400-435 MHz).
667 243	**GAT2**	Gainflex radio antenna (frequence range 435-470 MHz).
Antennas for mobiles phones		
782 500	**GAT18**	Multiband GSM/UMTS Antenna for 850/1900 MHz, for 900/1800 MHz and for 2100 MHz mobile networks.

4.2 Accessories for Mounting External RTK Antenna on Second Tripod (Base)

Adapter		
767 791	**GAD109**	Transition adapter from external UHF/GSM antenna connector of a GS15 Smart-Antenna to standard TNC connector. Allows to connect an external GSM/UHF antenna via gainflex cable to the GS15 SmartAntenna using the receiver as a Reference Station.
RTK antenna cables		
636 959	**GEV120**	2.8m antenna cable.
667 201	**GEV142**	1.6m extension antenna cable.
Telescopic rod, antenna arm and base for telescopic rod		
667 228	**GAD32**	Telescopic rod with 5/8" screw. Fits in base 667 236.
667 220	**GAD34**	Arm 3cm long, screws on telescopic rod. Gainflex antenna fits on arm. Antenna cable connects to arm.
667 236	**GHT36**	Base with 5/8" screw, for setting up telescopic rod on tripod.



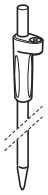
5 Accessories for Using External Radios with GS15 Receiver



Radio cables to GFU radios		
767 897	**GEV232**	Radio cable, 2.8m, connects GS15 receiver to GFU devices.
767 898	**GEV233**	Radio cable, 0.8m, connects GS15 receiver to GFU devices.
Brackets and holders for GFU radios		
748 417	**GHT58**	Bracket to mount a radio built into the Leica GFU radio housing on a tripod.
767 896	**GHT64**	Holder for GFU radios. Attaches to all GPS poles.
Cables for external radios		
762 026	**GEV221**	Y-cable, connects Satelline 3AS Epic Pro (10W) to GS10/GS15 receiver and 12V car battery.
733 297	**GEV171**	1.8m Y-cable to program the Satelline radio modem inside the GFU14 or GFU27 housing.
639 968	**GEV125**	Cable for Satelline radios without GFU housing to be connected to GS10/GS15 receivers.
748 418	**GEV205**	Y-cable for RTK reference setup, connects GS15 receiver to a GEB171 external battery and a Leica GFU radio.

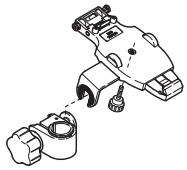
6 Additional Accessories for GS15 Pole Setups - GNSS Rover

6.1 Survey Poles



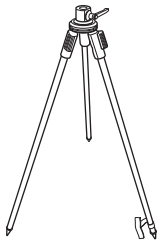
Poles with 5/8" screw		
768 226	**GLS13**	Telescopic aluminium GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.
752 292	**GLS30**	Telescopic carbon GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.
Poles with stub		
☞ Requires GAD31 screw to stub adapter for GS15 receiver to be mounted on these poles.		
766 359	**GLS31**	Telescopic carbon total station reflector pole with stub. Snap locks at 2.00m for GNSS antennas.
667 217	**GAD31**	Screw to stub adapter.

6.2 Holder and Clamp for Poles



767 879	**GHT62**	Pole holder base plate for CS10 and CS15 field controller.
767 880	**GHT63**	Clamp arrangement for attaching the GHT62 to all poles.

6.3 QuickStand



560 138	**GST6**	Quickstand with 3 telescopic legs, for aluminium poles.
667 319	**GSR111**	Dual-strut support, for all GLS poles.

7 Additional Accessories using the GS15 Receiver in a SmartPole Setup

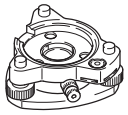
☞ Please refer to the Leica Viva TPS TS11/TS15 and Leica TS30 and TM30 Equipment list for additional accessories using the GS15 receiver in a SmartPole setup.

8 Additional Accessories using the GS15 Receiver in a SmartStation Setup

Please refer to the Leica Viva TPS TS11/TS15 and Leica TS30 and TM30 Equipment list for additional accessories using the GS15 receiver in a SmartPole setup.

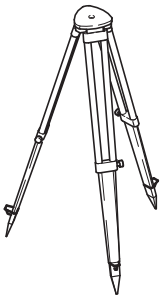
9 Additional Accessories for GS15 Tripod Setups - GNSS Base

9.1 Tribrachs



667 304	**GDF121**	Tribrach, without optical plummet, pale green.
667 307	**GDF122**	Tribrach, with optical plummet, pale green.
667 308	**GDF112**	Tribrach, with optical plummet, pale green/red.

9.2 Tripods

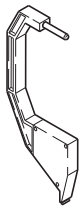


399 244	**GST05**	Wooden tripod with polymer coating, with accessories.
563 630	**GST05L**	Aluminium tripod, telescopic, with accessories.
667 301	**GST120-9**	Tripod, telescopic, selfclosing, with accessories, without pouch.

9.3 Carriers

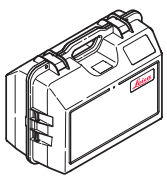
770 715	**GRT247**	Carrier with 5/8" screw for GS15 SmartAntenna.

9.4 Height Hook



667 244	**GZS4-1**	Height hook with integrated tape measure. Supplied with additional tape graduated in feet and inches.

10 Containers for GS15 Receiver

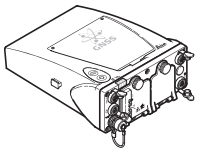


All GS15 need to be ordered with at least one container.

767 827	**GVP641**	Hard container for 2x GS15 GNSS SmartAntenna and CS10/CS15 field controller. The container allows a GS15 base station and GS15 rover with all accessories to be transported.
767 828	**GVP642**	Hard container for GS15 SmartAntenna and CS10/CS15 field controller. The container allows a GS15 rover, and all accessories for a SmartStation and SmartPole to be transported.

GS10 GNSS Receiver

11 GS10 GNSS Receiver



771 508	**GS10**	**Leica GS10 Single Frequency receiver**
770 704	**GS10**	**Leica GS10 Basic receiver**
771 509	**GS10**	**Leica GS10 Limited receiver**
771 510	**GS10**	**Leica GS10 Performance receiver**
771 511	**GS10**	**Leica GS10 Professional receiver**

	Leica GS10 Single Frequency	Leica GS10 Basic	Leica GS10 Limited	Leica GS10 Perform-ance	Leica GS10 Profes-sional
Supported GNSS Systems					
GPS L2	○	●	●	●	●
GPS L5	○	○	○	○	●
GLONASS	○	○	○	○	●
Galileo	○	○	○	○	●
RTK performance					
DGPS	○	○	●	●	●
RTK up to 5km	○	○	●	●	●
RTK unlimited	○	○	○	●	●
Network RTK	○	○	○	●	●
Leica Lite RTK	○	○	○	○	●
Position update & data recording					
5 Hz positioning	●	○	●	●	●
20 Hz positioning	○	○	○	●	●
Raw data logging	●	○	●	●	●
RINEX logging	○	○	○	○	●
NMEA out	○	○	○	○	●
Additional features					
RTK Reference Station functionality	○	○	○	●	●

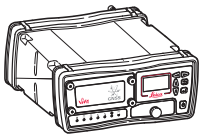
● Standard
○ Optional

11.1 Producer Certificates for GS10 Receiver

366 358	**GDI33**	Producer Certificate O.

GS25 GNSS Receiver

12 GS25 GNSS Receiver



788 246	**GS25**	Leica GS25 Basic receiver
788 245	**GS25**	Leica GS25 Professional receiver

	Leica GS25 Basic	Leica GS25 Professional
Supported GNSS Systems		
GPS L2	●	●
GPS L5	○	●
GLONASS	○	●
Galileo	○	●
RTK performance		
DGPS	○	●
RTK up to 5km	○	●
RTK unlimited	○	●
Network RTK	○	●
Leica Lite RTK	○	●
Position update & data recording		
5 Hz positioning	○	●
20 Hz positioning	○	●
Raw data logging	○	●
RINEX logging	○	●
NMEA out	○	●
Additional features		
RTK Reference Station functionality	○	●
Event & PPS Output ports	●	●

● Standard
○ Optional

12.1 Producer Certificates for GS25 Receiver

366 358	**GDI33**	Producer Certificate O.

13 Additional GS10/GS25 Receiver Options

GNSS software options		
771 500	**LOP19**	GPS L2 option, enables GPS L2 and GPS L2C tracking on a GS10, GS15 or GS25 receiver.
767 804	**LOP1**	GPS L5 option, enables GPS L5 tracking on a GS10, GS15 or GS25 receiver.
767 805	**LOP2**	GLONASS option, enables GLONASS tracking on a GS10, GS15 or GS25 receiver.
767 806	**LOP3**	Galileo option, enables Galileo tracking on GS10, GS15 or GS25 receiver.
Position rate and data recording options		
767 807	**LOP4**	5Hz option, enables to compute positions with an update rate up to 5Hz.
767 808	**LOP5**	20Hz option, enables to compute positions with an update rate up to 20Hz.

767 809	**LOP6**	Upgrade option from 5Hz to 20Hz. (LOP4 to LOP5)
767 810	**LOP7**	Raw data option, allows logging of GNSS raw data on GS10, GS15 or GS25 receiver or on a CS10/CS15 field controller.
767 811	**LOP8**	RINEX option, allows logging of RINEX data on GS10, GS15 or GS25 receiver.
767 818	**LOP15**	NMEA out option, enables NMEA to be streamed from GS10, GS15 or GS25 receivers.
RTK related options		
771 497	**LOP16**	DGPS option for GS10, GS15 or GS25 receivers, enables the receiver to compute a DGPS position.
767 812	**LOP9**	5km RTK option, enables RTK positions to be computed up to a distance of 5 km from a single base station.
767 813	**LOP10**	Unlimited RTK option, enables RTK positions to be computed from a single base station with no limit of distance.
767 814	**LOP11**	Upgrade from 5km RTK to unlimited RTK. (LOP9 to LOP10)
767 815	**LOP12**	Unlimited RTK and Network RTK, enables RTK position to be computed from a single base station and within a RTK network.
767 817	**LOP14**	Upgrade option for GS10, GS15 or GS25 receivers from RTK unlimited only to RTK unlimited including RTK Network. (LOP10 to LOP12)
771 971	**LOP20**	Leica Lite option, to receive GS09 RTK data on the GS10, GS15 or GS25 receivers.
Other options		
767 816	**LOP13**	RTK Reference station option, allows a GS10, GS15 or GS25 receiver to transmit RTK data.

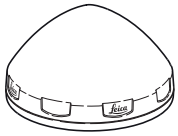
14 GNSS Antennas

Select the antenna for GS10/GS25 receiver.
Choke ring antennas are only required for special applications such as when using a GS10/GS25 receiver as a permanent reference station receiver.

14.1 GNSS Single and Triple Frequency Antennas

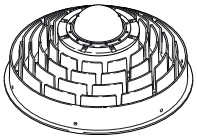
770 708	**AS05**	GPS/GLONASS single frequency antenna.
770 701	**AS10**	GPS/GLONASS/Gallileo triple frequency antenna.

14.2 Field Base GNSS Antennas



773 758	**AR10**	GPS/GLONASS/Galileo triple frequence reference station antenna with integrated radome.

14.3 Choke Ring Antennas



765 733	**AR25**	GNSS choke-ring antenna for GNSS receivers. Includes L-Band signals.
667 140	**GVP601**	Weather protection radome for AT504GG antenna.
765 734	**GVP653**	Weather protection radome for AR25 antenna.

15 GNSS Antenna Cables for GS10/GS25 Receiver

15.1 GNSS Antenna Cables for GS10/GS25 using as Rover

667 200	**GEV141**	1.2m antenna cable.
667 201	**GEV142**	1.6m extension for antenna cable.
724 969	**GEV194**	1.8m antenna cable.

15.2 GNSS Antenna Cables for GS10/GS25 Base Setup

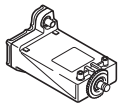
Short cables		
667 200	**GEV141**	1.2m antenna cable.
724 969	**GEV194**	1.8m antenna cable.
Medium cables		
636 959	**GEV120**	2.8m antenna cable.
632 372	**GEV119**	10m antenna cable.
Extra long cables		
632 390	**GEV108**	30m antenna cable.
664 813	**GEV134**	50m antenna cable.

15.3 Event Cable for GS25

789 061	**GEV262**	Event cable for GS25 with Lemo.

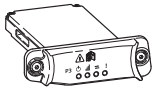
16 RTK Modems

16.1 Satelline Radio Modems for GS10 Receiver



Satelline modems		
767 859	**GFU27**	Satelline M3 TR1 403-470 MHz RX/TX radio in GFU housing. Transceiver UHF radio module. User manual and CE Declaration of Conformity included.
Cables for Satelline modems		
733 297	**GEV171**	1.8m Y-cable to program the Satelline radio modem inside the GFU14 or GFU27 housing.
762 026	**GEV221**	Y-cable, connects Satelline 3AS Epic Pro (10W) to GS10/GS15 and 12V car battery.
639 968	**GEV125**	Cable for Satelline radios without GFU housing to be connected to GS10/GS15.

16.2 Satelline Radio Modems for GS25 Receiver



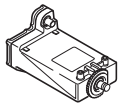
Satelline modems		
788 725	**SLR5-1**	Satelline M3 TR1 403-470 MHz RX/TX radio for GS25. Transceiver UHF radio module. User manual and CE Declaration of Conformity included.
Cables for Satelline modems		
762 026	**GEV221**	Y-cable, connects Satelline 3AS Epic Pro (10W) to GS10/GS15/GS25 and 12V car battery.
639 968	**GEV125**	Cable for Satelline radios without GFU housing to be connected to GS10/GS15/GS25.

16.3 Satelline High Power Radios

789 636	**HPR2**	Satelline-EASY Pro 35W high power radio, 403-473 MHz RX/TX radio. Includes power cable for connecting to 12V battery.
636 805	**GEV114**	Data cable to connect Satelline 3ASd Epic Pro (35W) high power radio to GS GNSS receiver.

16.4 Pacific Crest Radio Modems

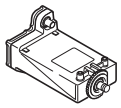
Pacific Crest radio modems must be ordered directly from your local Pacific Crest office or representative.



PDL receive only modems built into the Leica GFU radio housing with 12.5 or 25kHz channel spacing within the following frequency bands are available:

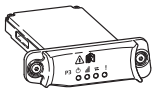
- 410 - 430 MHz
- 430 - 450 MHz
- 450 - 470 MHz

16.5 Mobile Phones for GS10



767 860	**GFU28**	5-Band (850/900/1800/1900/2100 MHz) Telit 3.5G GSM/GPRS/UMTS module in GFU housing. Provides fully flexibilty due to 5-band technology and therefore global compatible to all GSM, GPRS, EDGE and UMTS network providers.
783 170	**GFU28-1**	5-Band (850/900/1800/1900/2100 MHz) Telit 3G GSM/GPRS/UMTS module for US and Canada only. Provides fully flexibilty due to 5-band technology and therefore compatible to GSM,GPRS,EDGE and UMTS network providers in US and CAN.
744 754	**GFU19**	US CDMA cellular phone Multitech MTMMC-C-N3 for Verizon network, integrated into housing, fits on side of GS10 receiver.

16.6 Mobile Phones for GS25



776 236	**SLG1-2**	SLG1-2, 5-Band (850/900/1800/1900/2100 MHz) Telit 3G GSM/GPRS/UMTS module. Provides full flexibilty due to 5 -band technology, supports all GSM, GPRS, EDGE and UMTS network providers.

17 RTK Antennas

17.1 External RTK Antennas

Gainflex radio antennas		
639 964	**GAT1**	Gainflex radio antenna (frequence range 400-435 MHz).
667 243	**GAT2**	Gainflex radio antenna (frequence range 435-470 MHz).
Antennas for mobile phones		
782 500	**GAT18**	Multiband GSM/UMTS Antenna for 850/1900 MHz, for 900/1800 MHz and for 2100 MHz mobile networks

17.2 Accessories for Mounting RTK Antenna on the AS05/AS10 Antenna

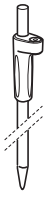
Antenna cables		
667 200	**GEV141**	1.2m antenna cable.
667 201	**GEV142**	1.6m extension for antenna cable.
724 969	**GEV194**	1.8m antenna cable.
636 959	**GEV120**	2.8m antenna cable.
RTK antenna arm		
667 219	**GAD33**	15cm, attaches to GNSS antenna. Gainflex antenna fits on arm. Antenna cable connects to arm.

17.3 Accessories for Mounting RTK Antenna on Second Tripod (Base)

RTK antenna cables		
636 959	**GEV120**	2.8m antenna cable.
667 201	**GEV142**	1.6m extension for antenna cable.
Telescopic rod, antenna arm and base for telescopic rod		
667 228	**GAD32**	Telescopic rod with 5/8" screw. Fits in base 667 236.
667 220	**GAD34**	Arm 3cm long, screws on telescopic rod. Gainflex antenna fits on arm. Antenna cable connects to arm.
667 236	**GHT36**	Base with 5/8" screw, for setting up telescopic rod on tripod.

18 Additional Accessories for GS10/GS25 Pole Setups - GNSS Rover

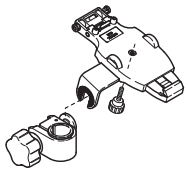
18.1 Survey Poles



Poles with 5/8" screw		
768 226	**GLS13**	Telescopic aluminium GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.
752 292	**GLS30**	Telescopic carbon GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.
Poles with stub		
☞ Requires GAD31 screw to stub adapter for AS10 antenna to be mounted on these poles.		

754 391	**GLS12**	Telescopic aluminium total station reflector pole with stub. Snap locks at 2.00m for GNSS antennas.
766 359	**GLS31**	Telescopic carbon total station reflector pole with stub. Snap locks at 2.00m for GNSS antennas.
667 217	**GAD31**	Screw to stub adapter.

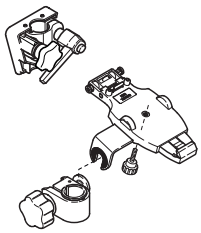
18.2 Minipack Setup



Backpack		
667 137	**GVP603**	Minipack, holds GS10 GNSS Receiver.
Holders		
767 879	**GHT62**	Pole holder base plate for CS10 and CS15 field controller.
767 880	**GHT63**	Clamp arrangement for attaching the GHT62 to all poles (except mini reflector poles).
Antenna cables		
667 200	**GEV141**	1.2m antenna cable.
667 201	**GEV142**	1.6m extension antenna cable.
636 959	**GEV120**	2.8m antenna cable.
Telescopic rod and RTK antenna arm		
667 228	**GAD32**	Telescopic rod with 5/8" screw. Fits in Minipack 667 137. Fits in base 667 236.
667 220	**GAD34**	Arm 3cm long, screws on telescopic rod. Gainflex antenna fits on arm. Antenna cable connects to arm.
734 388	**GAD46**	Double arm adapter, screws on telescopic rod. Allows to connect up to 2 mobile phone/radio antennas and up to 2 antenna cables on arm.

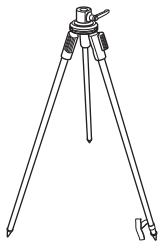
18.3 All on the Pole Setup

Only possible when using GLS12/GLS13 poles.



Holders		
733 265	**GHT40**	Holder for all variants of GS10 for balanced all-on-the-pole setup.
767 879	**GHT62**	Pole holder base plate for CS10 and CS15 field controller.
767 880	**GHT63**	Clamp arrangement for attaching the GHT62 to all poles (except mini reflector poles).
Antenna cable for GNSS antenna and RTK antenna		
724 969	**GEV194**	1.8m antenna cable.
RTK antenna arm		
667 219	**GAD33**	15cm, attaches to GNSS antenna. Gainflex antenna fits on arm. Antenna cable connects to arm.

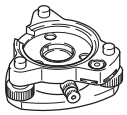
18.4 QuickStand



560 138	**GST6**	Quickstand with 3 telescopic legs, for aluminium poles.
667 319	**GSR111**	Dual-strut support, for all GLS poles.

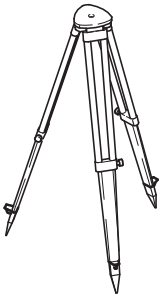
19 Additional Accessories for GS10/GS25 Tripod Setups - GNSS Base

19.1 Tribrachs



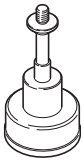
667 304	**GDF121**	Tribrach, without optical plummet, pale green.
667 307	**GDF122**	Tribrach, with optical plummet, pale green.
667 308	**GDF112**	Tribrach, with optical plummet, pale green/red.

19.2 Tripods



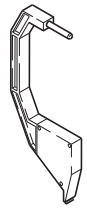
667 301	**GST120-9**	Tripod, telescopic, selfclosing, with accessories, without pouch.
399 244	**GST05**	Wooden tripod with polymer coating, with accessories.
563 630	**GST05L**	Aluminium tripod, telescopic, with accessories.

19.3 Carriers



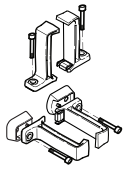
Carriers with 5/8" screw		
667 216	**GRT146**	Carrier with 5/8" screw, GNSS antenna screws on directly.
Carriers with stub		
667 313	**GRT144**	Carrier with stub, pale green.
667 217	**GAD31**	Screw-to-stub adapter for fitting GPS antenna on carriers with stub and poles with stub.

19.4 Height Hook



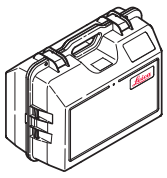
667 244	**GZS4-1**	Height hook with integrated tape measure. Supplied with additional tape graduated in feet and inches.

20 Mounting Kits for GS25



Mounting kits for GS25 receiver		
774 439	**GEV249**	Rack Mount Kit for GS25 receiver. For fitting the receiver to standard IT rack (requires 2 U in the rack).

21 Container for GS10/GS25 Receiver



All GS10/GS25 need to be ordered with at least one container.

770 706	**GVP646**	Hard container for GS10 receiver, antenna and CS15/CS10 field controller. The container allows a GS10 receiver, and all accessories for a base station to be transported.
790 636	**GVP704**	Hard container for GS25 GNSS receiver. This container allows a GS25 receiver, CS15/CS10 and all accessories for a base station to be transported.

GS12 GNSS Receiver

22 GS12 GNSS Receiver

22.1 GS12 GNSS SmartAntenna

782 288	**GS12**	GS12 GNSS SmartAntenna, Geodetic 120 channels GNSS receiver, includes: GPS L1+L2, 1 Hz position rate, easily upgradeable with CS/GS12 options (e.g. Glonass, Gallileo, GPS L5, Network Licence, Raw data logging).

22.2 Producer Certificates for GS12 Receiver

366 358	**GDI33**	Producer Certificate O.

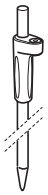
23 Additional GS12 Receiver Software Options

GS12 related receiver options are license keys to be set on CS field controller.

GNSS Software options		
782 278	**GSW949**	**CS/GS12 GLONASS License.** License key for the CS10/CS15 field controller which enables use of GLONASS with a GS12 receiver.
782 279	**GSW950**	**CS/GS12 GPS L5 License.** License key for the CS10/CS15 field controller which enables use of GPS L5 with a GS12 receiver.
782 280	**GSW951**	**CS/GS12 Galileo License.** License key for the CS10/CS15 field controller which enables use of Galileo with a GS12 receiver.
Position update and data recording options		
782 281	**GSW952**	**CS/GS12 5Hz License.** License key for the CS10/CS15 field controllers which enables to compute 5Hz positions with a GS12 receiver.
782 282	**GSW953**	**CS/GS12 Raw Data Logging License.** License key for the CS10/CS15 field controllers which enables logging of Leica MDB raw data with a GS12 receiver.
782 283	**GSW954**	**CS/GS12 RINEX Logging License.** License key for the CS10/CS15 field controllers which enables logging of RINEX raw data with a GS12 receiver.
RTK related options		
782 284	**GSW955**	**CS/GS12 Network RTK Network License.** License key for the CS10/CS15 field controllers which eanbles the GS12 receiver to work within an RTK network. Includes unlimited RTK baseline.
782 285	**GSW956**	**CS/GS12 Leica Lite RTK License.** License key for the CS10/CS15 field controllers which enables the GS12 receiver to receive Leica Lite RTK messages.

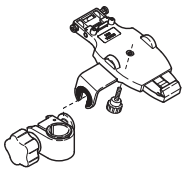
24 Additional Accessories for a GS12 GNSS Rover

24.1 Survey Poles



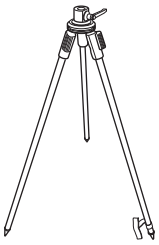
Poles with 5/8" screw		
768 226	**GLS13**	Telescopic aluminium GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.
752 292	**GLS30**	Telescopic carbon GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.
Poles with stub		
☞ Requires GAD31 screw to stub adapter for GS12 receiver to be mounted on these poles.		
754 391	**GLS12**	Telescopic aluminium total station reflector pole with stub. Snap locks at 2.00m for GNSS antennas.
766 359	**GLS31**	Telescopic carbon total station reflector pole with stub. Snap locks at 2.00m for GNSS antennas.
667 217	**GAD31**	Screw to stub adapter.

24.2 Holder and Clamp for Poles



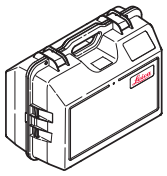
767 879	**GHT62**	Pole holder base plate for CS10 and CS15 field controller.
767 880	**GHT63**	Clamp arrangement for attaching the GHT62 to all poles.

24.3 QuickStand



560 138	**GST6**	Quickstand with 3 telescopic legs, for aluminium poles.
667 319	**GSR111**	Dual-strut support, for all GLS poles.

24.4 Container for GS12 Receiver



782 384	**GVP656**	Hard container for GS12 SmartAntenna, CS10/CS15 field controller and accessories for a SmartPole setup and SmartStation setup.

24.5 Additional Accessories using the GS12 Receiver in a SmartPole Setup

☞ Please refer to the Leica Viva TPS TS11/TS15 and Leica TS30 and TM30 Equipment list for additional accessories using the GS12 receiver in a SmartPole setup.

24.6 Additional Accessories using the GS12 Receiver in a SmartStation Setup

☞ Please refer to the Leica Viva TPS TS11/TS15 and Leica TS30 and TM30 Equipment list for additional accessories using the GS12 receiver in a SmartStation setup.

GS08plus GNSS Receiver

25 GS08plus GNSS Receiver

798 257	**GS08plus**	GS08plus GPS/GLONASS Dual Frequency SmartAntenna for the CS10 Field Controller.

26 Additional GS08plus Receiver Software Options

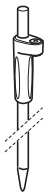
GNSS Software options		
791 827	**LOP27**	GS08plus GLONASS option.

☞ GS08plus related receiver options are license keys to be set on CS10 field controller.

Position update and data recording options		
782 271	**GSW943**	CS10/GS08plus 5Hz option, enables 0.2sec (5Hz) position and display update rate.
782 272	**GSW944**	CS10/GS08plus MDB raw data logging option.
782 273	**GSW945**	CS10/GS08plus RINEX raw data logging option.
RTK related options		
782 274	**GSW946**	CS10/GS08plus RTK Rover option, includes unlimited baseline and reference network access.
782 275	**GSW947**	CS10/GS08plus Leica Lite RTK option, enables GS08plus to receive Leica Lite RTK messages.
792 349	**GSW1067**	CS10/GS08plus RTK Base option, allows a GS08plus to transmit RTK data.

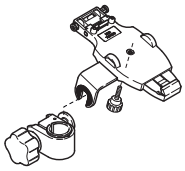
27 Additional Accessories for GS08plus Pole Setups - GNSS Receiver

27.1 Survey Poles



Poles with 5/8" screw		
768 226	**GLS13**	Telescopic aluminium GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.
752 292	**GLS30**	Telescopic carbon GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.

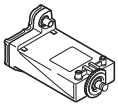
27.2 Holder and Clamp for Poles



767 879	**GHT62**	Pole holder base plate for CS10 and CS15 field controller.
767 880	**GHT63**	Clamp arrangement for attaching the GHT62 to all poles.

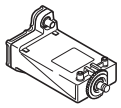
28 Additional Accessories for GS08plus Tripod Setups - GNSS Base

28.1 RTK Radio modules



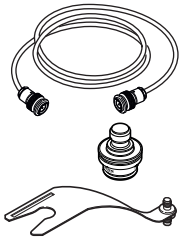
767 859	**GFU27**	Satelline M3 TR1 403-470 MHz RX/TX radio in GFU housing. Transceiver UHF radio module. User manual and CE Declaration of Conformity included.
639 964	**GAT1**	Gainflex radio antenna (frequence range 400-435 MHz).
667 243	**GAT2**	Gainflex radio antenna (frequence range 435-470 MHz).

28.2 RTK Mobile phone modules



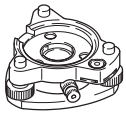
767 860	**GFU28**	5-Band (850/900/1800/1900/2100 MHz) Telit 3.5G GSM/GPRS/UMTS module in GFU housing. Provides fully flexibilty due to 5-band technology and therefore global compatible to all GSM, GPRS, EDGE and UMTS network providers.
782 500	**GAT18**	Multiband GSM/UMTS Antenna for 850/1900 MHz, for 900/1800 MHz and for 2100 MHz mobile networks.

28.3 RTK Accessories



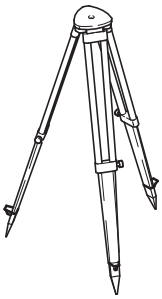
748 418	**GEV205**	Y-Cable for RTK Reference setup. Connects a GS08plus/GS12 with a GEB171 battery and a radio in a Leica GFU housing.
727 367	**GEB171**	External universal battery, NiMH, 12V/9Ah, rechargeable.
748 417	**GHT58**	Bracket to mount a radio built into the Leica GFU radio housing on a tripod.
791 829	**GAD113**	Adapter for fitting the GAD33 antenna arm to the GS08plus.
667 200	**GEV141**	1.2m antenna cable.
667 219	**GAD33**	15cm, attaches to GNSS antenna. Gainflex antenna fits on arm. Antenna cable connects to arm.

28.4 Tribrachs



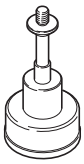
748 888	**GDF111-1**	Tribrach, without optical plummet, pale green.
667 308	**GDF112**	Tribrach, with optical plummet, pale green/red.

28.5 Tripods



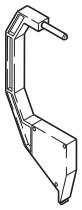
399 244	**GST05**	Wooden tripod with polymer coating, with accessories.
563 630	**GST05L**	Aluminium tripod, telescopic, with accessories.

28.6 Carriers



667 216	**GRT146**	Carrier with 5/8" screw, GNSS antenna screws on directly.

28.7 Height Hook



667 244	**GZS4-1**	Height hook with integrated tape measure. Supplied with additional tape graduated in feet and inches.

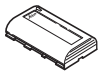
29 Container for GS08plus

791 697	**GVP661**	Hard container for GS08plus SmartAntenna, CS10 Field Controller and accessories.
791 695	**GVP659**	Hard container for two GS08plus SmartAntennas, CS10 Field Controller and accessories for a complete Base and Rover setup.

Additional Accessories GS15, GS10, GS25, GS08plus and GS12 Receiver

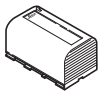
30 Power Supply

30.1 Internal Batteries for GS15, GS12 and GS08plus Receiver



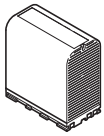
733 269	**GEB211**	Lithium-Ion battery, 7.4V/2.2Ah, rechargeable. To be used with CS10/CS15 field controller and GS15, GS08plus or GS12 receiver.
772 806	**GEB212**	Lithium-Ion battery, 7.4V/2.6Ah, rechargeable. To be used with CS10/CS15 field controller and GS15, GS08plus or GS12 receiver.

30.2 Internal Batteries for GS10 Receiver



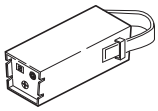
733 270	**GEB221**	Lithium-Ion battery, 7.4V/4.4Ah, rechargeable. To be used with GS10 receiver.

30.3 Internal Batteries for GS25 Receiver



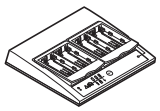
754 834	**GEB241**	Lithium-Ion battery, 14.8V/4.8Ah, rechargeable, for GS25 receiver.

30.4 External Power Supply



Battery for GS10/GS15		
727 367	**GEB171**	External universal battery, NiMH, 12V/9Ah, rechargeable.
Power cables for GS10/GS15		
758 469	**GEV219**	Power cable, 1.8m, connects GS10/GS15 receiver to external GEB171 battery.
439 038	**GEV71**	4m car battery cable, connects all battery cables to 12V car battery.
Power cables for GS10		
560 130	**GEV97**	Power cable, 1.8m, connects GS10 receiver to external GEB171 battery.
733 298	**GEV172**	Power cable, 2.8m, connects GS10 receiver to 2 external GEB171 batteries.
Power cables for GS12 and GS08plus		
748 418	**GEV205**	Y-Cable for RTK Reference setup. Connects a GS08plus/GS12 with a GEB171 battery and a radio in a Leica GFU housing.

30.5 Battery Chargers



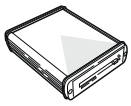
733 271	**GKL221**	Charger, to be used with up to two charging adapters GDI221 or GDI222, charger cable and net adapter included.
733 323	**GDI221**	Adapter for GKL221 for charging 2 Li-Ion batteries GEB241, GEB221, GEB211 or GEB212.
734 389	**GDC221**	Car adapter for the GKL221 charger. Allows the use of the GKL221 with a cigarette lighter; 12V/24V DC/DC converter. Can also be used to power CS10/CS15 field controller directly from a cigarette lighter.
734 752	**GKL211**	Charger, for Li-Ion batteries GEB221, GEB211 and GEB212, car adapter cable and net adapter included.

31 Data Storage and Data Transfer

31.1 Memory Devices for GS10, GS15 and GS25 Receiver

767 856	**MSD1000**	SD memory card 1GB for GS10 and GS15 receiver and CS10 and CS15 field controller.

31.2 Card Reader



767 895	**MCR7**	Card reader for SD/CF cards.

31.3 Data Transfer Cables

Serial cables

733 280	**GEV160**	Serial data transfer cable, 2.8m, connects GS10/GS15 receiver (port 2) to PC. (Lemo to 9pin RS232)
733 282	**GEV162**	Serial data transfer cable, 2.8m, connects GS10/GS15 receiver (port 1) or CS10/CS15 controller to PC. (Lemo to 9pin RS232)
734 755	**GEV195**	Serial data transfer cable, converter cable USB to serial (Lemo to USB connector), 2.0m, connects GS10/GS15 receiver (port 2) to PC. PC driver included on CD.
758 468	**GEV218**	Serial data transfer cable, converter cable USB to serial (Lemo to USB connector), 2.0m, connects GS10/GS15 receiver (port 1) or CS10/CS15 controller to PC. PC driver included on CD.

USB cable

767 899	**GEV234**	USB cable, 1.65m, connects GS08plus/GS10/GS12/GS15 receiver or CS10/CS15 controller to USB port of a PC or connects GS08plus/GS10/GS12/GS15 receiver to CS10/CS15 controller. (Lemo to USB)

32 Cables to connect GS08plus/GS10/GS12/GS15/GS25 to CS Controller

In cases where high data speed communication is required between GS08plus/GS10/GS12/GS15 and CS controller, cables should be used instead of a Bluetooth connection.

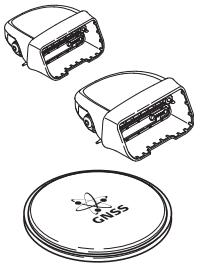
USB cables

767 899	**GEV234**	USB cable, 1.65m, connects GS08plus/GS10/GS12/GS15 receiver or CS10/CS15 controller to USB port of a PC or connects GS08plus/GS10/GS12/GS15 receiver to CS10/CS15 controller. (Lemo to USB)
772 807	**GEV237**	USB cable, 1.65m, connects GS08plus/GS10/GS12/GS15 receiver to CS10/CS15 controller. (Lemo to Lemo)

Viva Uno GNSS Receiver

Refer to "38 CS10/CS15 Field Controller" for details about the CS10/CS15 field controllers.

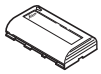
33 GNSS Antennas for Viva Uno



Viva Uno GNSS receiver		
773 483	**GS05**	GS05 - GNSS cap, 14 channel, single frequency GPS and Glonass (optional) and SBAS tracking receiver that fits as a cap on the CS10.
773 484	**GS06**	GS06 - GNSS cap, 14 channel, single frequency GPS and Glonass (optional) and SBAS tracking receiver that fits as a cap on the CS15.
External GNSS Antenna for Viva Uno GNSS Receiver		
770 708	**AS05**	GPS/GLONASS single frequency antenna.
772 002	**GEV238**	1.2m external antenna cable. Connects GS05 or GS06 to the external antenna AS05.
GLONASS Option		
770 713	**LOP50**	GLONASS option for GS05 and GS06, enables the GNSS cap GS06 or GS05 to receive GLONASS signals.

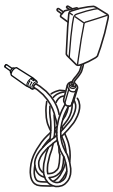
34 Accessories for Viva Uno

34.1 Internal Battery



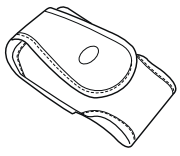
733 269	**GEB211**	Lithium-Ion battery, 7.4V/2.2Ah, rechargeable. To be used with CS10/CS15 field controller or GS15 receiver.

34.2 Additional Power Accessories



767 900	**GEV235**	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in the EU.
773 753	**GEV235-1**	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in the US.
773 754	**GEV235-2**	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in Japan.
773 755	**GEV235-3**	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in the UK.
773 756	**GEV235-4**	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in Australia.
734 389	**GDC221**	Car adapter for the GKL221 charger. Allows the use of the GKL221 with a cigarette lighter; 12V/24V DC/DC converter. Can also be used to power CS10/CS15 field controller directly from a cigarette lighter.

34.3 Softbags and Hand Strap for Viva Uno



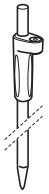
Soft bags		
767 904	**GVP643**	Soft bag for CS10 field controller for transportation and protection against dirt. Including belt loop.
767 905	**GVP644**	Soft bag for CS15 field controller for transportation and protection against dirt. Including belt loop.
Hand strap		
767 877	**GHT61**	Hand strap for CS10/CS15 field controller with utility hook for attaching to belt or tripod.

34.4 Data Transfer Cables

764 700	**GEV223**	Data transfer cable USB A to USB mini.
767 899	**GEV234**	USB cable, 1.65m, connects GS10/GS15 receiver or CS10/CS15 controller to USB port of a PC or connects GS10/GS15 receiver to CS10/CS15 controller. (Lemo to USB)

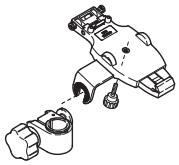
35 Additional Accessories for Viva Uno Pole Setups - GNSS Rover

35.1 Survey Poles



Poles with 5/8" screw		
768 226	**GLS13**	Telescopic aluminium GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.

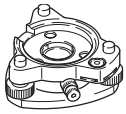
35.2 All on the Pole Setup



Holders		
767 879	**GHT62**	Pole holder base plate for CS10 and CS15 field controller.
767 880	**GHT63**	Clamp arrangement for attaching the GHT62 to all poles (except mini reflector poles).

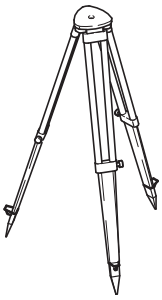
36 Additional Accessories for Viva Uno Tripod Setups - GNSS Base

36.1 Tribrachs



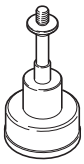
726 839	**GDF101**	Tribrach, without optical plummet, black.
726 840	**GDF102**	Tribrach with optical plummet, Leica system, black.

36.2 Tripods



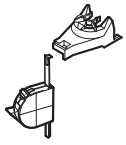
726 833	**GST103**	Aluminium tripod with shoulder strap and side clamp.

36.3 Carriers



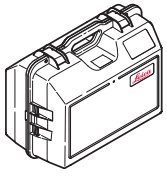
Carriers with 5/8" screw		
667 216	**GRT146**	Carrier with 5/8 inch screw, GNSS antenna screws on directly.

36.4 Instrument Height Meter



667 718	**GHM007**	Instrument height meter.
722 045	**GHT196**	Distance holder for height meter.

37 Container for Viva Uno GNSS Receiver



770 709	**GVP654**	Hard container for Viva Uno GNSS receiver and antenna. The container allows to transport complete GNSS Rover and Base Setup including accessories.

Field Controller

38 CS10/CS15 Field Controller

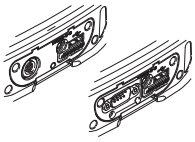
38.1 CS10 Field Controller

781 597	**CS10 3.5G Field Controller**	**CS10 3.5G Field Controller.** Ruggedized WinCE field controller with full VGA touch display, 1GB NAND Flash memory, 512MB SDRAM, CF/SD card slot and 2MP camera. Includes Bluetooth, internal WLAN module, 3.5G GSM/UMTS module, numeric keypad, stylus. Available with either Lemo connector (CBC01) or DSUB connector module (CBC02).
767 866	**CS10 Radio Field Controller**	**CS10 Radio Field Controller.** Ruggedized WinCE field controller with full VGA touch display, 1GB NAND flash memory, 512MB SDRAM, CF/SD card slot and 2MP camera. Includes Bluetooth, internal WLAN module, internal TPS radio module, numeric keypad, stylus. Available with either Lemo connector (CBC01) or DSUB connector module (CBC02).
767 863	**CS10 Field Controller**	**CS10 Field Controller.** Ruggedized WinCE field controller with full VGA touch display, 1GB NAND flash memory, 512MB SDRAM, CF/SD card slot and 2MP camera. Includes Bluetooth, numeric keypad, stylus. Available with either Lemo connector (CBC01) or DSUB connector module (CBC02).

38.2 CS15 Field Controller

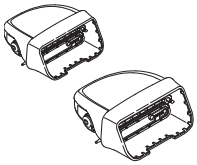
781 599	**CS15 3.5G Field Controller**	**CS15 3.5G Field Controller.** Ruggedized WinCE field controller with full VGA touch display, 1GB NAND Flash Memory, 512MB SDRAM, CF/SD card slot and 2MP camera. Includes Bluetooth, internal WLAN module, 3.5G GSM/UMTS module, QWERTY keypad, stylus. Available with either Lemo connector (CBC01) or DSUB connector module (CBC02).
767 869	**CS15 Field Controller**	**CS15 Field Controller.** Ruggedized WinCE field controller with full VGA touch display, 1GB NAND flash memory, 512MB SDRAM, CF/SD card slot and 2MP camera. Includes Bluetooth, QWERTY keypad, stylus. Available with either Lemo connector (CBC01) or DSUB connector module (CBC02).

39 Connector Modules for CS10/CS15 Field Controller



767 874	**CBC01**	Lemo connector module with power jack, Lemo (USB and Serial) and USB A host for CS10 and CS15 field controller. ☞ Can only be ordered with CS10/CS15 field controller.
767 875	**CBC02**	DSUB connector module with power jack, DSUB 9-pin, USB A host and USB mini AB for CS10 and CS15 field controller. ☞ Can only be ordered with CS10/CS15 field controller.

40 RTK Modems for CS10/CS15 Field Controllers



789 634	**CGR10**	403-470 MHz RXO radio for CS10 controllers. RTK receive only UHF radio to be easy attached to any CS10 controller.
789 635	**CGR15**	403-470 MHz RXO radio for CS15 controllers. RTK receive only UHF radio to be easy attached to any CS15 controller.

41 RTK Antennas for CGR10/CGR15

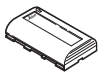
790 585	**GAT21**	GAT21, Radio Antenna for CGR radio, frequency range 400-470 MHz.

42 Accessories for Field Controller

42.1 Miscellaneous Accessory

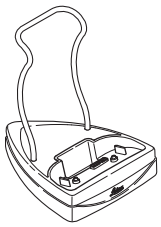
781 521	**GDZ69**	Extra pen with screw driver for CS10 and CS15 field controller.
767 907	**SPF01**	Anti-glare display foils for CS10 and CS15 field controller.

42.2 Internal Batteries



733 269	**GEB211**	Lithium-Ion battery, 7.4V/2.2Ah, rechargeable. To be used with CS10/CS15 field controller or GS15 receiver.
772 806	**GEB212**	Lithium-Ion battery, 7.4V/2.6Ah, rechargeable. To be used with CS10/CS15 field controller or GS15 receiver.

42.3 Docking Station



767 906	**CCS01**	Docking station for CS10 and CS15 field controller for charging and data transfer to PC, includes: GEV223 (USB A to USB mini data transfer cable).

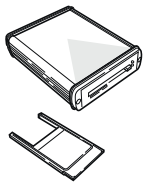
42.4 Additional Power Accessories

767 900	**GEV235**	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in the EU.
773 753	**GEV235-1**	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in the US.
773 754	**GEV235-2**	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in Japan.
773 755	**GEV235-3**	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in the UK.
773 756	**GEV235-4**	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in Australia.
734 389	**GDC221**	Car adapter for the GKL221 charger. Allows the use of the GKL221 with a cigarette lighter; 12V/24V DC/DC converter. Can also be used to power CS10/CS15 field controller directly from a cigarette lighter.

42.5 Memory Devices

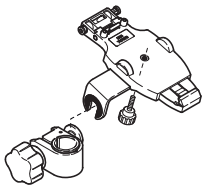
767 856	**MSD1000**	SD memory card 1GB for GS10/GS15 receiver and CS10/CS15 field controller.
733 257	**MCF256**	CompactFlash card 256MB for TPS instruments and CS10/CS15 field controller.
745 995	**MCF1000**	CompactFlash card 1GB for TPS instruments and CS10/CS15 field controller.
765 199	**MS1**	USB memory stick, 1GB, industrial grade.

42.6 Card Reader & Adapter



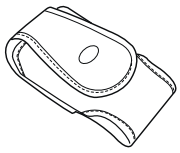
767 895	**MCR7**	Card reader for SD/CF cards.
733 258	**MCFAD1**	CompactFlash PC card adapter.

42.7 Pole Accessories for CS10/CS15 Field Controller



767 879	**GHT62**	Pole holder base plate for CS10 and CS15 field controller.
767 880	**GHT63**	Clamp arrangement for attaching the GHT62 to all poles.

42.8 Softbags and Hand Strap for CS10/CS15 Field Controller



Soft bags		
767 904	**GVP643**	Soft bag for CS10 field controller for transportation and protection against dirt. Including belt loop.
767 905	**GVP644**	Soft bag for CS15 field controller for transportation and protection against dirt. Including belt loop.
Hand strap		
767 877	**GHT61**	Hand strap for CS10 and CS15 field controller with utility hook for attaching to belt or tripod.

SmartWorx Viva

43 SmartWorx Viva Software and Application Programs

43.1 SmartWorx Viva Software for CS10/CS15 Field Controller

767 908	SmartWorx Viva software and DVD.
767 910	CS SmartWorx Viva LT licence key. ☞ Requires 767 908 SmartWorx Viva software.
767 909	CS SmartWorx Viva licence key. ☞ Requires 767 908 SmartWorx Viva software.
767 911	CS SmartWorx Viva LT to CS SmartWorx Viva upgrade option.
788 859	SmartWorx Viva CS LT Extended Settings.
788 860	SmartWorx Viva CS LT Extended Apps.

43.2 SmartWorx Viva Software for Zeno 10/Zeno 15 GIS Handhelds

☞ This allows to run SmartWorx Viva on a Zeno 10/Zeno 15 field controller. In order to load SmartWorx Viva to a Zeno 10/Zeno 15 GIS Handheld it is needed to first load a CCP maintenance key.

772 809	CS SmartWorx Viva LT licence key. ☞ Includes 767 908 SmartWorx DVD.
772 808	CS SmartWorx Viva licence key. ☞ Includes 767 908 SmartWorx DVD.

43.3 Applications Included with SmartWorx Viva

	CS Smart-Worx Viva	CS Smart-Worx Viva LT
Survey includes:		
• Survey	●	●
• Code Points	●	●
• Auto points recording	●	○
• Hidden Points	●	-
RTK Base Setup includes:		
• Over known point	●	●
• Over last setup	●	●
• Over any point	●	●
☞ Requires RTK Reference option 767 816 LOP13 on GS10 or GS15.		
Stakeout includes:		
• Navigate to point using various methods: North, sun, point and line	●	○
• Quality control - checking of coordinate differences before storing	●	-
• Automatic selection of next closest point to stake	●	-
• Graphical selection of point from map	●	●
• Edit heights and offset heights of points	●	-
• Acoustic "reversing beep" when getting closer to point	●	-
COGO includes:		
• Inverse	●	●
• Traverse	●	●
• Intersections	●	●
• Line calculations	●	●
• Arc calculations	●	●
• Angle and curve calculator	●	-
• Shift, Rotate & Scale (manual)	●	●
• Shift, Rotate & Scale (match Points)	●	●

		CS Smart-Worx Viva	CS Smart-Worx Viva LT
	Determine coordinate system:		
	• 1 step, 2 step, 3D Transformation	●	●
	• All common projections	●	●
	Alignment Tool Kit:		
	• Horizontal alignments	●	●
	• Vertical alignments	●	●
	• Cross sections	●	●
	• Chainage equations	●	●
	Data import: ASCII, DXF, DTM	●	●
	Data export: Simple ASCII, Custom ASCII, DXF, LandXML, FBK, RW5, RAW, RWD	●	●

● All options and functionality available
○ Limited options and functionality
- Not available

43.4 Additional SmartWorx Viva Software Packages for CS field controller

		CS Smart-Worx Viva	CS Smart-Worx Viva LT
767 913	**CS Worksite+ includes:**		
	• CS DTM Stakeout application (767 919)	●	●
	• CS Reference Line application (767 915)	●	○
	• CS Survey Surface & Volumes application (767 920)	●	●

● All options and functionality available
○ Limited options and functionality
- Not available

43.5 Optional SmartWorx Viva Applications for CS Field Controller

		CS Smart-Worx Viva	CS Smart-Worx Viva LT
767 917	**CS COGO Area Division** ☞ Requires COGO application.	●	●
767 919	**CS DTM Stakeout** ☞ Requires Stakeout application.	●	●
767 915	**CS Reference Line** ☞ Requires Stakeout application.	●	○
767 916	**CS Reference Plane and Grid Scanning**	●	-
767 921	**CS RoadRunner**	●	○
767 923	**CS RoadRunner Rail**	●	-
777 645	**CS RoadRunner Importer**	●	●
767 918	**CS Survey Cross Section**	●	-
767 920	**CS Surface and Volumes**	●	●
779 472	**DGPS option for Leica Viva Uno**	●	●

● All options and functionality available
○ Limited options and functionality
- Not available

43.6 SmartWorx Viva PC Software

773 894	**SmartWorx Viva PC Software.** Licence Key to run the SmartWorx Viva software on a PC.

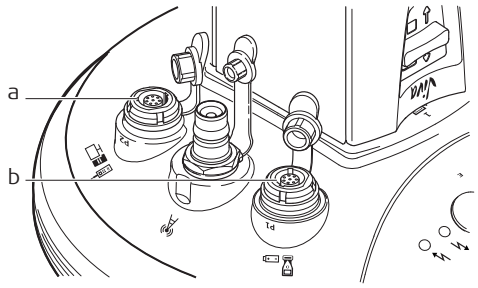
Care Packages

44 Customer Care Packages

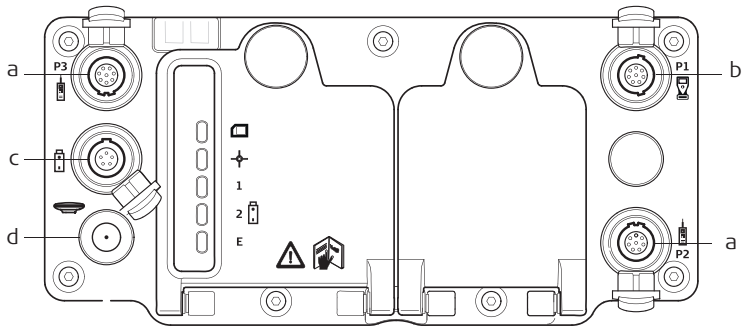
A wide selection of comprehensive Customer Care Packages (CCPs) is available bundling Hardware Maintenance, Software Maintenance, Customer Support and Extended Warranty.
For more information about the CCP offering in your country please contact your local Leica Geosystems organization or distribution partner.

System Viva GNSS Cables Overview

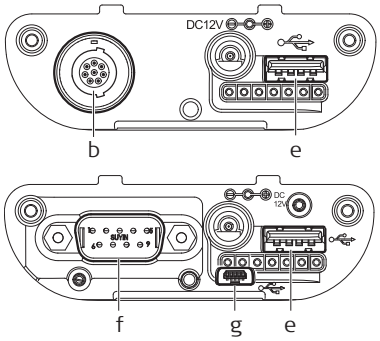
GS15 receiver



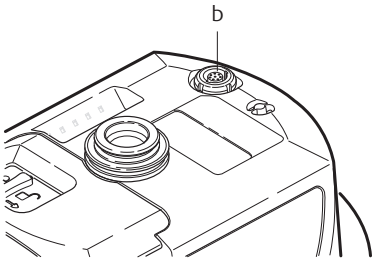
GS10 receiver



CS10/CS15 controller



GS08plus/GS12 SmartAntenna



a) Lemo1, 8pin, 30°
b) Lemo1, 8pin, 135°
c) Lemo1, 5pin, 30°
d) TNC connector
e) USB type A
f) RS232 serial, 9pin
g) Mini USB AB

Power cables

Art. no	Name	Connector 1	Connector 2	Description
560 130	GEV97	Lemo1, 5pin, 30°	Lemo1, 5pin, 30°	Length 1.8 m Allows GS10 (power port) to be externally powered.
758 469	GEV219	Lemo1, 8pin, 135°	Lemo1, 5pin, 30°	Length 1.8 m 1. Allows CS10/CS15 (with Lemo CBC01 connector module) to be externally powered via the Lemo port. 2. Allows GS10/GS15 (port 1) to be externally powered.
767 900	GEV235	Wall adapter	3mm barrel connector	Length 1.5 m Allows CS10/CS15 (with either connector modules) to be externally powered via the power jack. AC/DC wall adapter type is country specific.
439 038	GEV71	Crocodile clips	Lemo1, 5pin , 30° (female)	Length 4.0 m Allows powering of any device from car battery.

Y - power cables

Art. no	Name	Connector 1	Connector 2	Connector 3	Description
733 298	GEV172	Lemo1, 5pin	Lemo1, 5pin, 30°	Lemo1, 5pin, 30°	Length 2.8 m Allows GS10 (power port) to be externally powered by 2 external batteries.
756 365	GEV215	Lemo1, 8pin, 135°	Lemo1, 8pin, 135°	Lemo1, 5pin, 30°	Length 2.0 m Allows connection between CS10/CS15 (with Lemo CBC01 connector module) and GS10/GS15 (port 1) while being powered from the GEB171.
748 418	GEV205	Lemo1, 8pin, 135°	Lemo1, 8pin, 135° (female)	Lemo1, 5pin	Length 1.8 m Allows connection between GS10/GS15 (port 1), external radio in GFU1200 housing and GEB171 with GS and radio being externally powered.

Radio programming cables

Art. no	Name	Connector 1	Connector 2	Connector 3	Description
767 803	GEV231	15pin (GS15 slot-in port) (female)	RS232 serial, 9pin	Lemo1, 5pin	Length 1.8 m Allows an SLR radio device to be externally powered and programmed by a PC.
733 297	GEV171	Lemo1, 8pin, 135° (female)	RS232 serial, 9pin	Lemo1, 5pin	Length 1.8 m Allows a radio within a GFU1200 device to be externally powered and programmed by a PC.

Radio cables

Art. no	Name	Connector 1	Connector 2	Connector 3	Description
767 897	GEV232	Lemo1, 8pin, 30°	Lemo1, 8pin, 30° (female)		Length 2.8 m Allows Sytem1200 GFU housings to be connected to a GS10 (port 2 and 3), or GS15 (port 2).
767 898	GEV233	Lemo1, 8pin, 30°	Lemo1, 8pin, 30° (female)		Length 0.8 m Allows Sytem1200 GFU housings to be connected to a GS10 (port 2 and 3), or GS15 (port 2).
639 968	GEV125	Lemo1, 8pin, 30°	15pin, RS232 serial		Length 1.8 m Allows a Satelline modem (not inside housing) to be connected to a GS10 (port 2 and 3), or GS15 (port 2).
762 026	GEV221	Lemo1, 8pin, 30°	Lemo1, 8pin, 30°	Crocodile clamp	Length 2.0m Connects Satelline 3ASd Epic Pro (10W) to GS10/GS15 receiver and 12 V Car battery.
636 805	GEV114	Lemo1, 8pin, 30°	Lemo2, 8pin, 30°		Length 1.8m Data cable to connect Sateline 3ASd Epic Pro (35W) high power radio to GS GNSS receiver.

Serial data transfer cables

Art. no	Name	Connector 1	Connector 2	Description
733 280	GEV160	Lemo1, 8pin, 30°	RS232 serial, 9pin	Length 2.8 m Allows serial connection between GS10 (port 2 and 3), or GS15 (port 2) to PC to stream NMEA or RTK data.
733 282	GEV162	Lemo1, 8pin, 135°	RS232 serial, 9pin	Length 2.8 m 1. Allows serial connection between GS10/GS15 (port 1) to PC to stream NMEA or RTK data. 2. Allows serial connection between CS10/CS15 (with Lemo CBC01 connector module) and hidden point device, ASCII input device, PC etc.
733 283	GEV163	Lemo1, 8pin, 135°	Lemo1, 8pin, 135°	Length 1.8 m Allows serial connection between CS10/CS15 (with Lemo CBC01 connector module) and GS10/GS15 port 1.

USB to serial converter cables

Art. no	Name	Connector 1	Connector 2	Description
734 755	GEV195	Lemo1, 8pin, 30°	USB type A	Length 2.0 m Allows GS10 (port 2 and 3) or GS15 (port 2) to be connected to a PC where a serial connection is required, but no 9pin RS232 port physically exists on the PC. This cable allows a serial connection through the USB port of the PC to the CS or GS hardware.
758 468	GEV218	Lemo1, 8pin, 135°	USB type A	Length 2.0 m Allows CS10/CS15 (with Lemo CBC01 connector module) and GS10/GS15 port 1 to be connected to a PC where a serial connection is required, but no 9pin RS232 port physically exists on the PC. This cable allows a serial connection through the USB port of the PC to the GS hardware.

USB data transfer cables

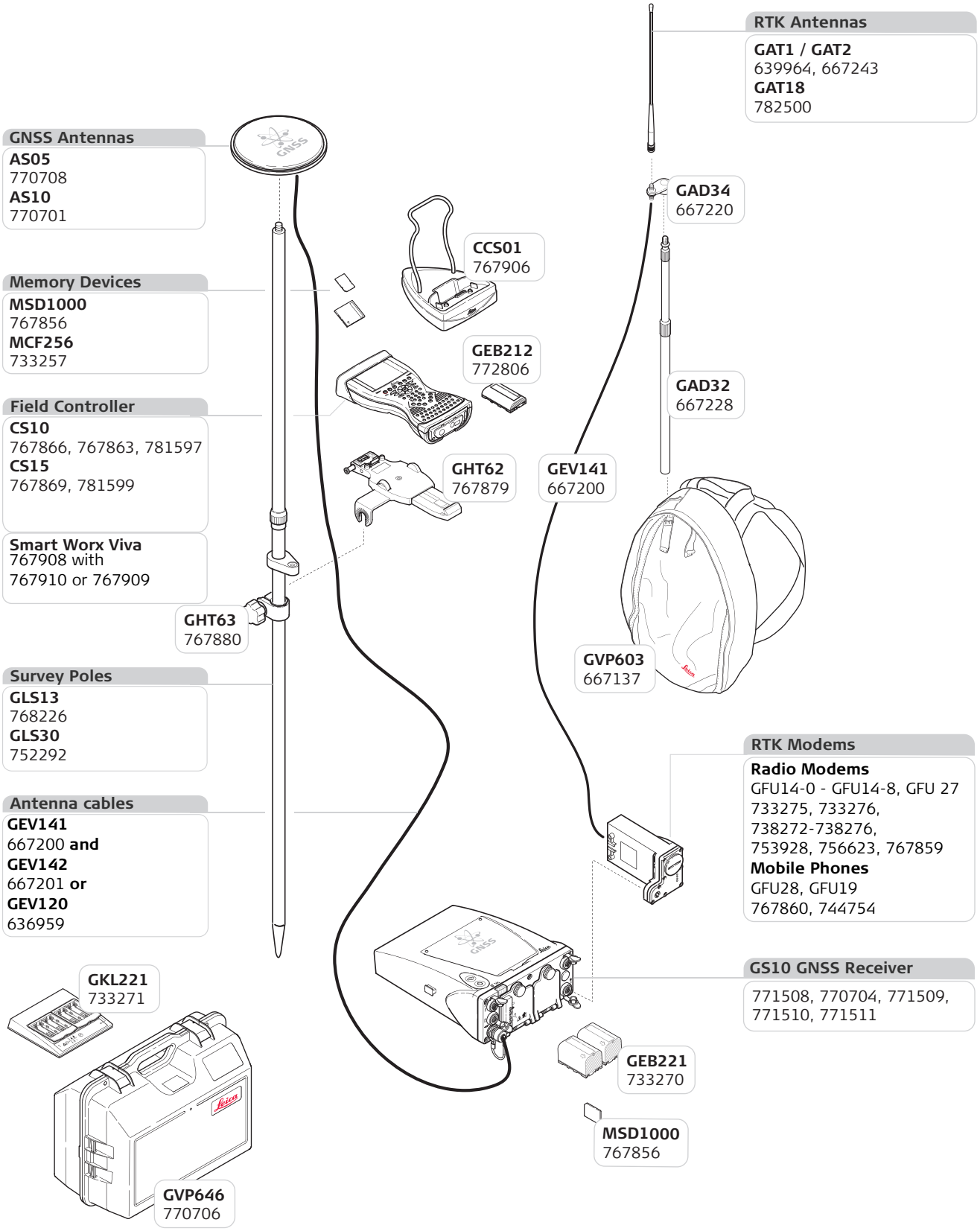
Art. no	Name	Connector 1	Connector 2	Description
767 899	GEV234	Lemo1, 8pin, 135°	USB type A	Length 1.65 m 1. Allows a CS10/CS15 (with 9pin serial CBC02 connector module) to connect to a GS08plus/GS12 or GS10/GS15 (port 1). This is the cable needed for a cable connection needed between CS and GS when the CS is using the CBC02 connector module. 2. Allows a USB connection between the USB port of a PC to a GS08plus/GS12 or GS10/GS15 (port 1). 3. Allows a USB connection between the USB port of a PC to a CS10/CS15 (with Lemo CBC01 connector module).
764 700	GEV223	USB type A	Mini USB type B	Length 1.8 m Allows USB data transfer between CS10/CS15 (both connector modules) and a PC.
772 807	GEV237	Lemo1, 8pin, 135°	Lemo1, 8pin, 135°	Length 1.65 m Allows a CS10/CS15 (with Lemo CBC01 connector module) to connect to a GS08plus/GS12 or GS10/GS15 (port 1). This is the cable needed for a cable connection between CS and GS when the CS is using the CBC01 connector module.

Antenna cables for connecting GNSS antennas or RTK antennas

Art. no	Name	Connector 1	Connector 2	Description
667 200	GEV141	TNC connector	TNC connector	Length 1.2 m
772 002	GEV238	TNC connector	SMB connector	Length 1.2 m
667 201	GEV142	TNC connector	TNC connector (male)	Length 1.6 m Extension cable.
636 959	GEV120	TNC connector	TNC connector	Length 2.8 m
632 372	GEV119	TNC connector	TNC connector	Length 10 m
632 390	GEV108	TNC connector	TNC connector	Length 30 m
664 813	GEV134	TNC connector	TNC connector	Length 50 m

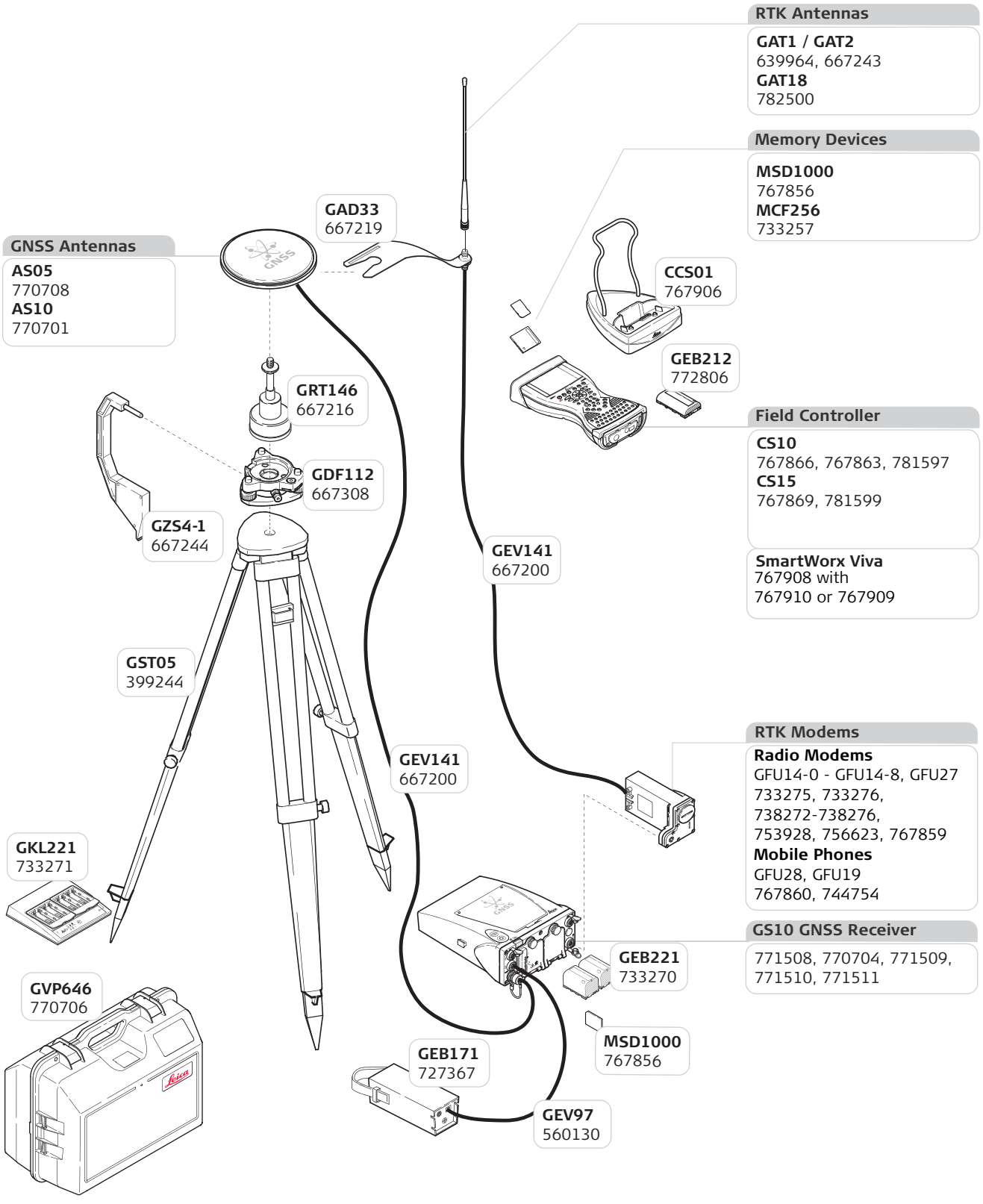
Suggested GNSS Setups

45 GS10 Real Time Rover - Pole plus Minipack

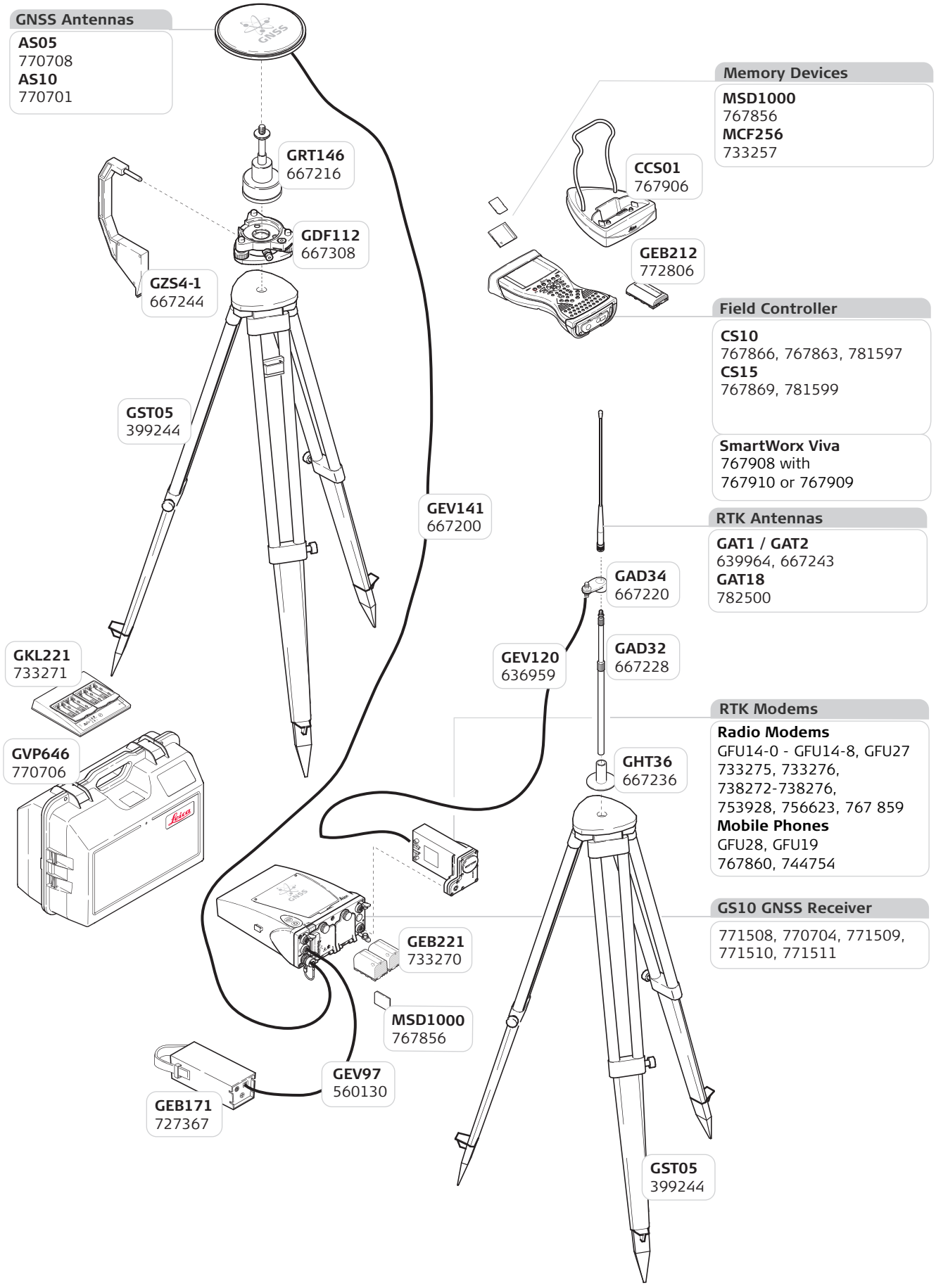


46 GS10 Real Time Reference - Tripod Setup

46.1 Using One Tripod

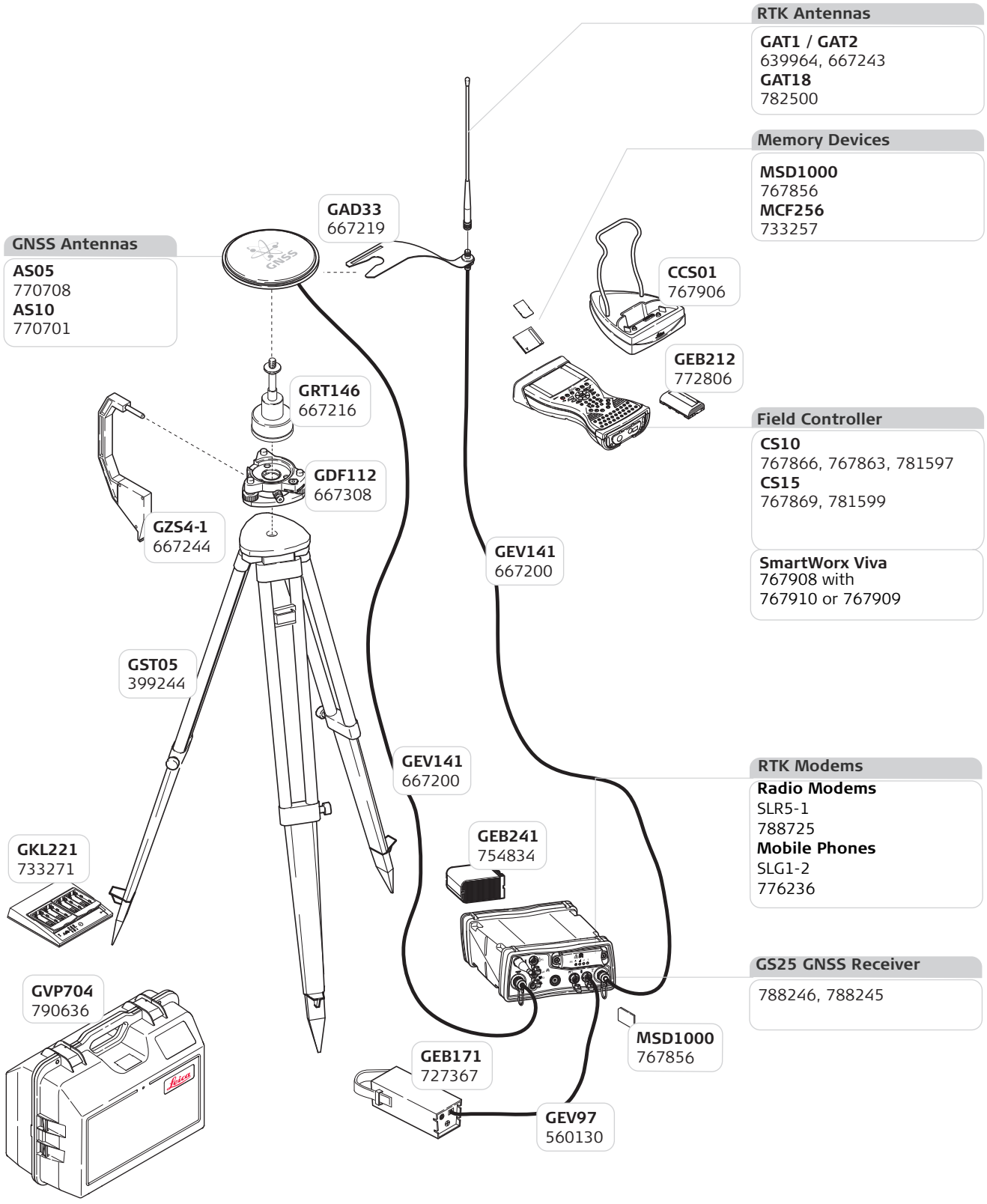


46.2 Using Two Tripods

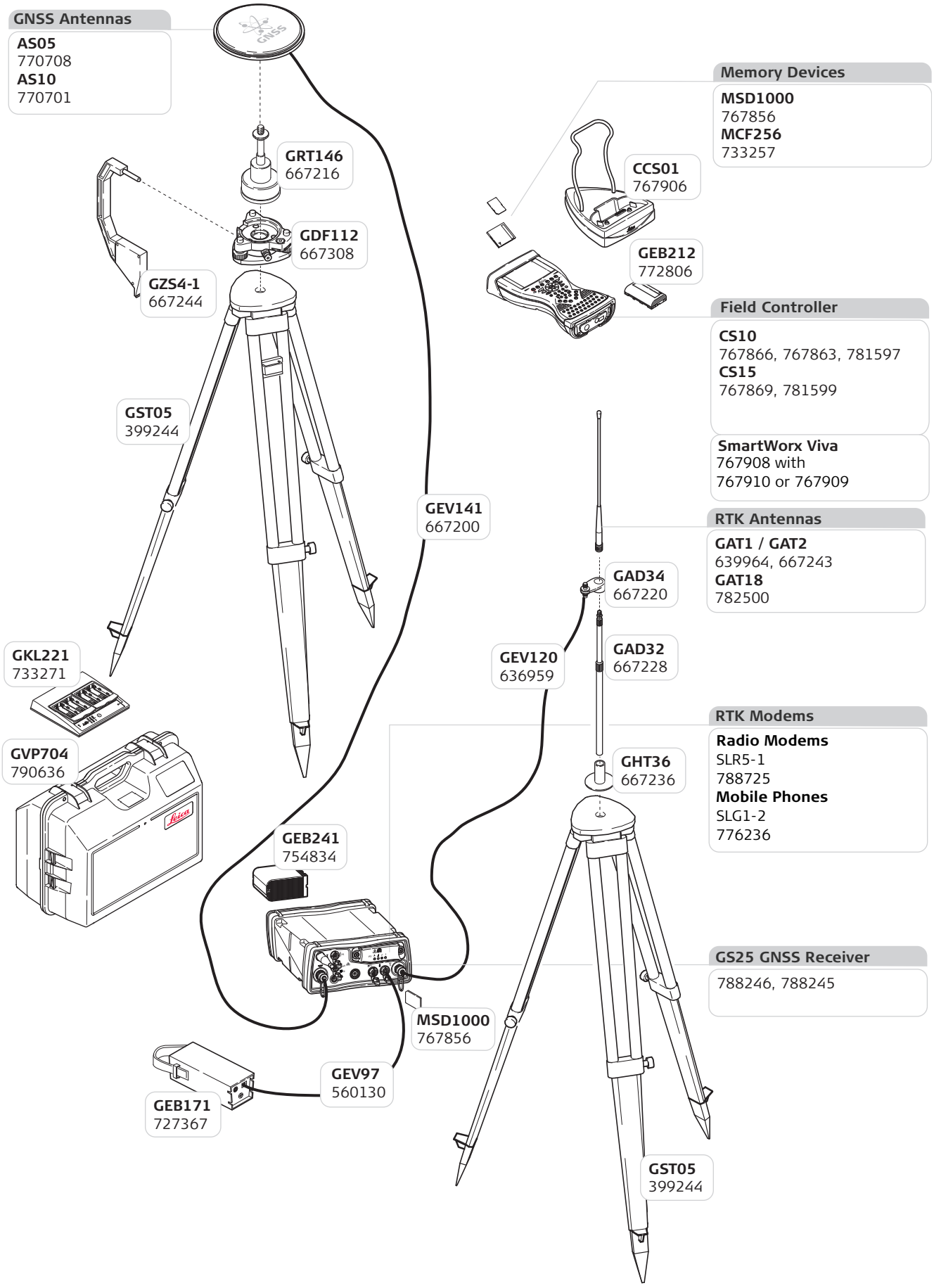


47 GS25 Real Time Reference - Tripod Setup

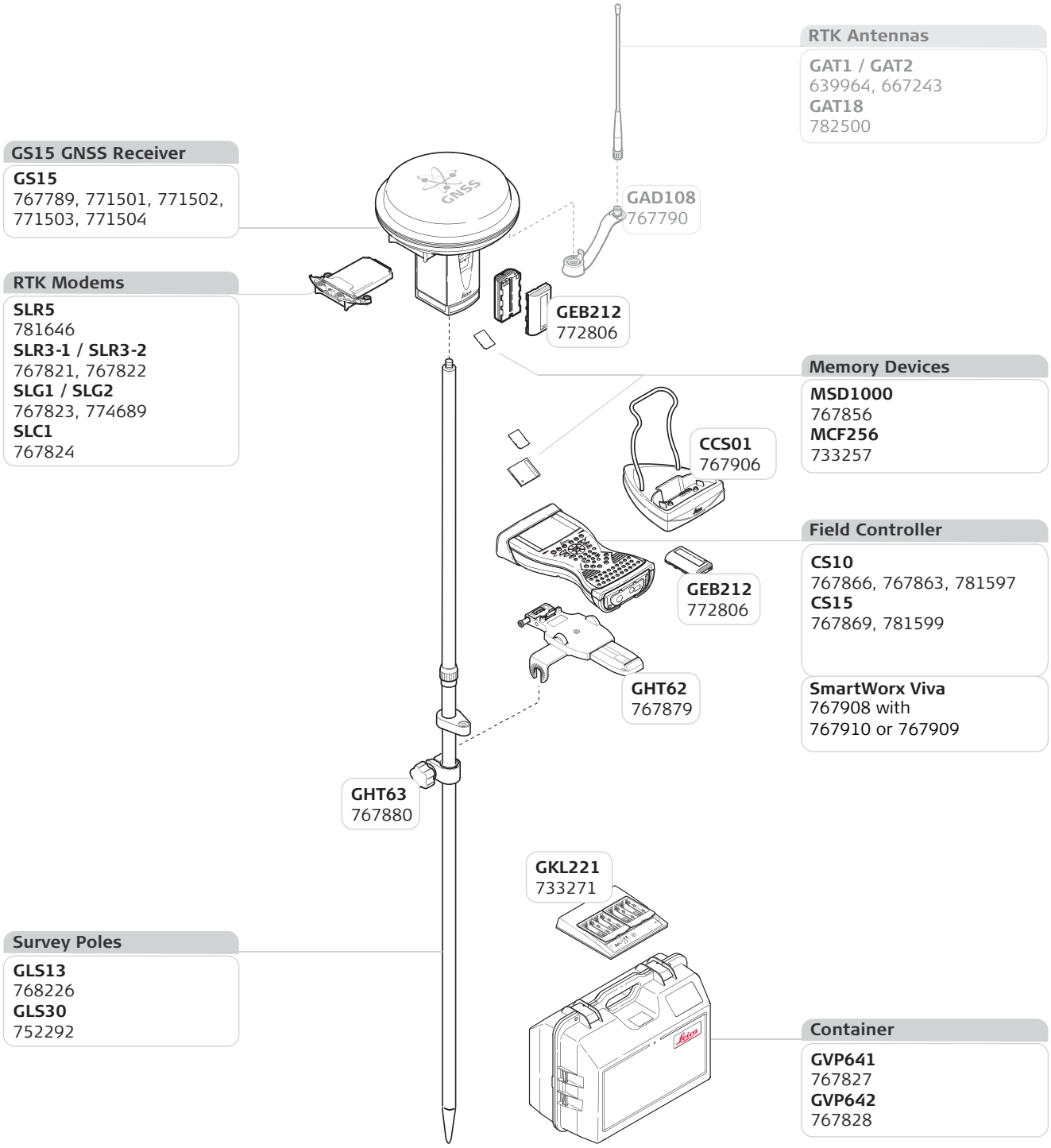
47.1 Using One Tripod



47.2 Using Two Tripods



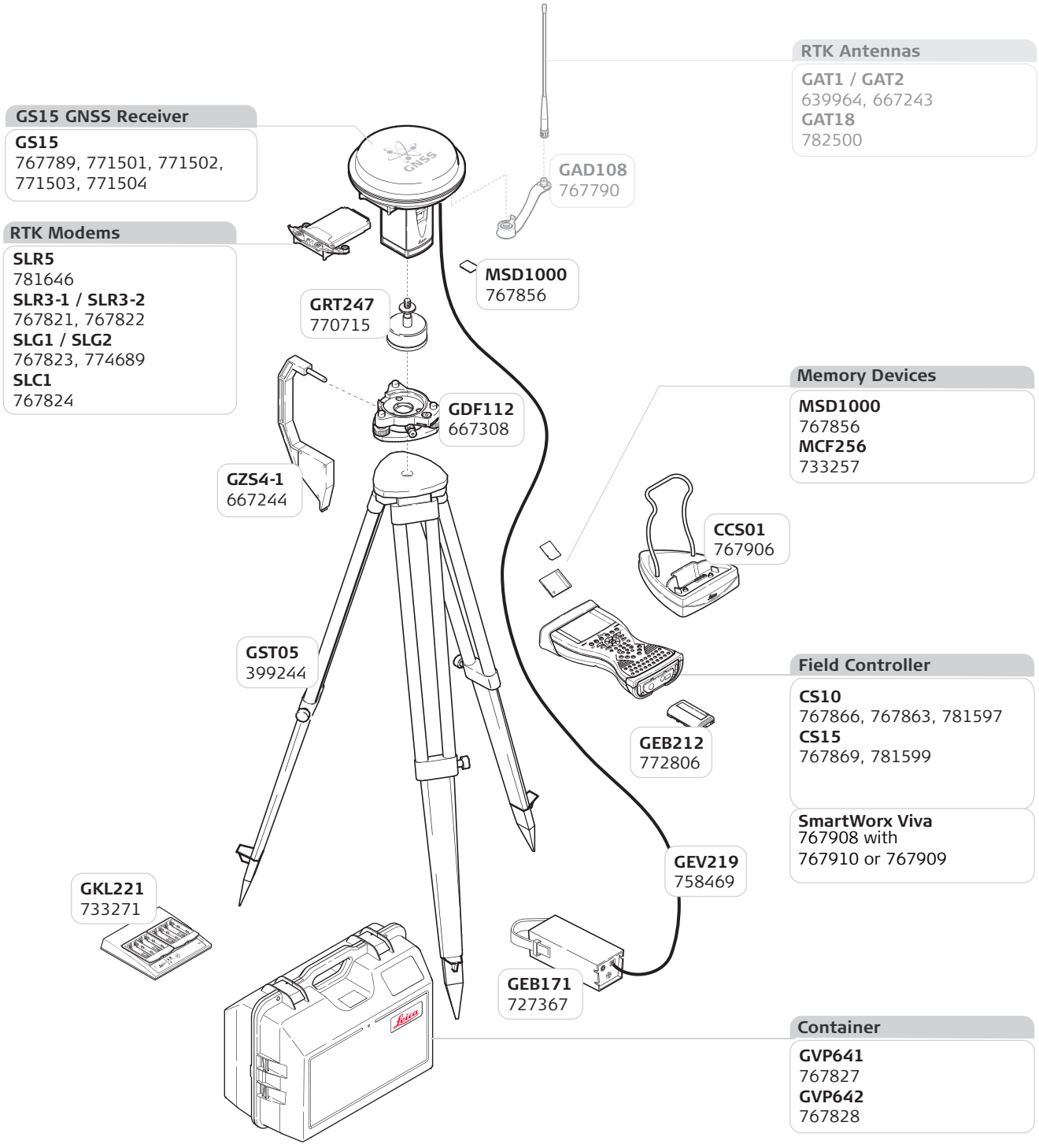
48 GS15 Real Time Rover



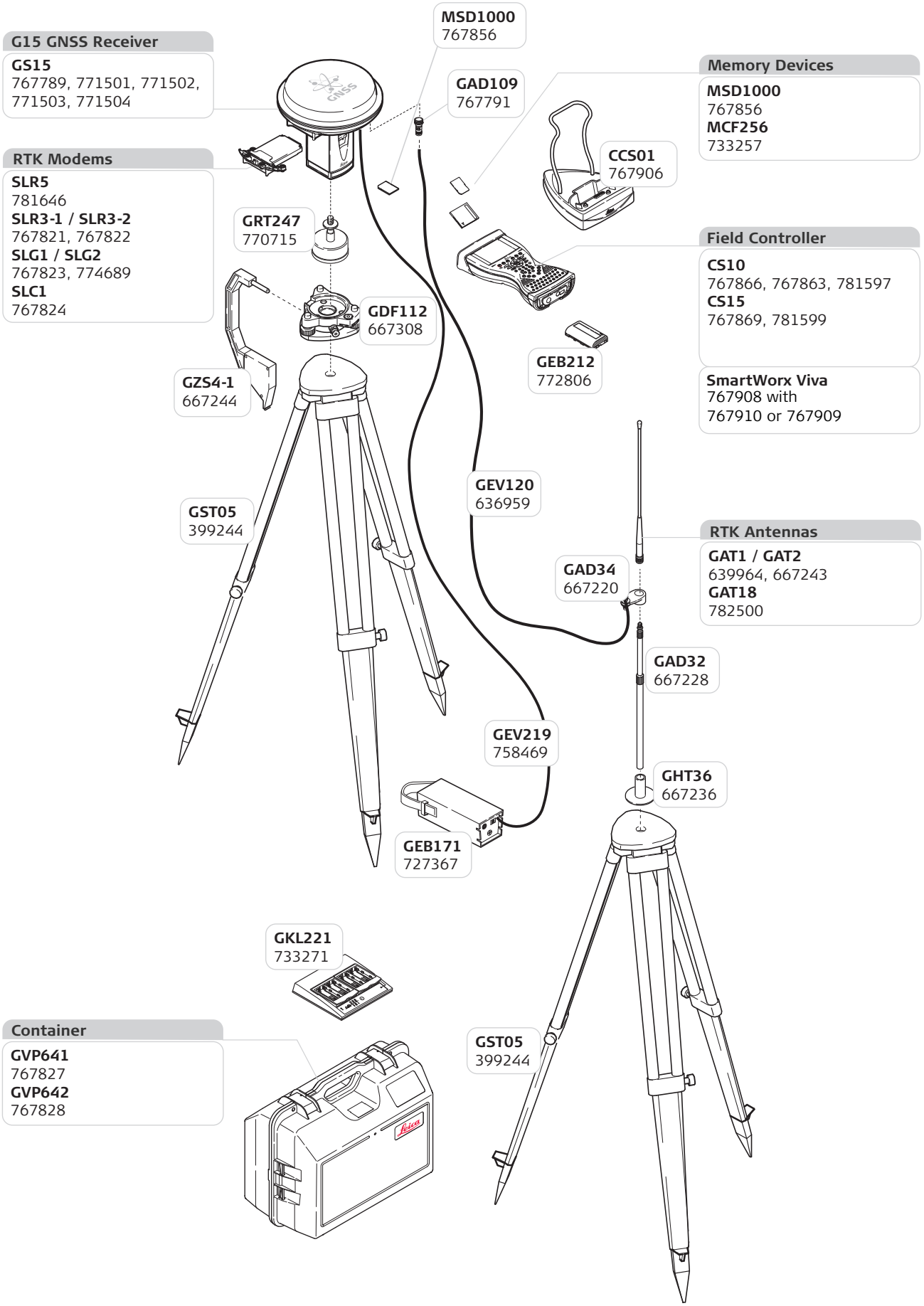
Please refer to the Leica TS11/TS15 or Leica TS30 and TM30 Equipment list for the usage of a GS15 receiver in a SmartPole or SmartStation setup.

49 GS15 GNSS Real Time Reference - Tripod Setup

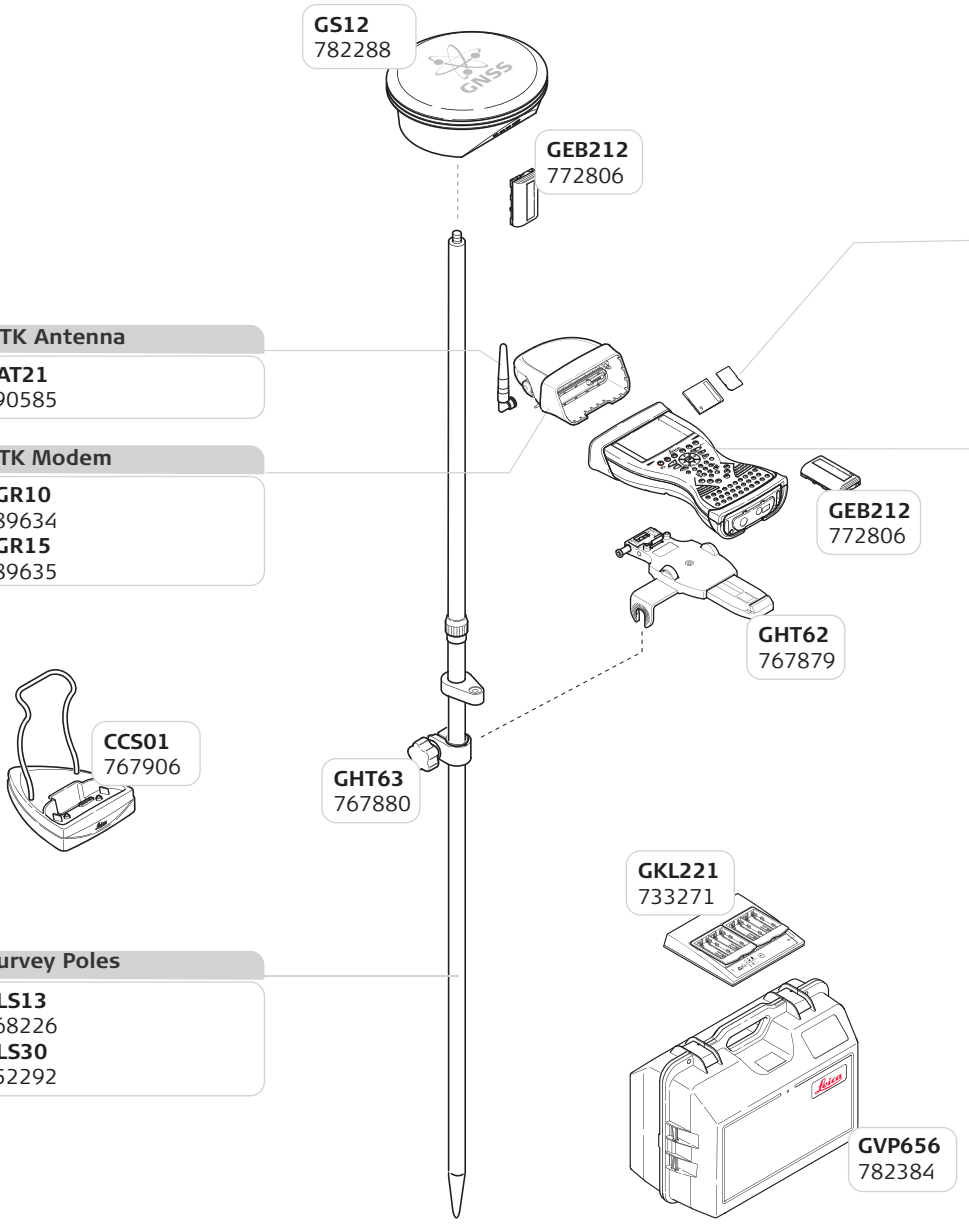
49.1 Using One Tripod



49.2 Using Two Tripods

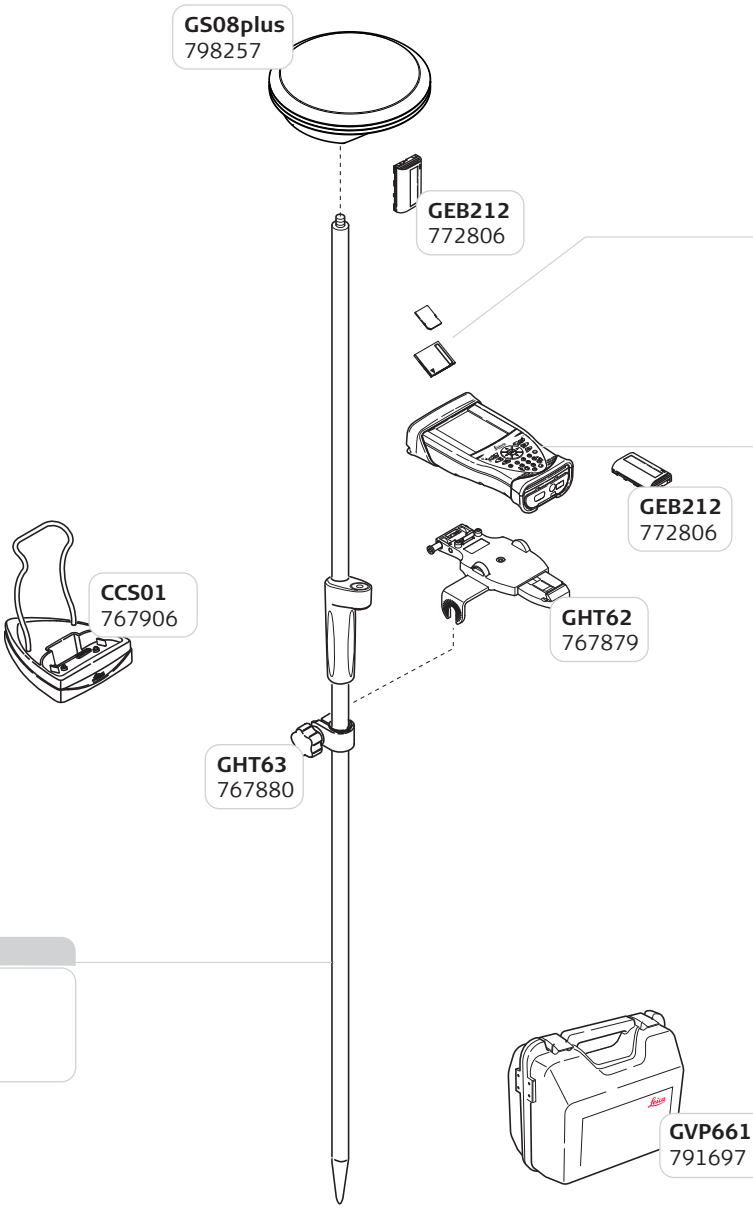


50 GS12 GNSS RTK Rover



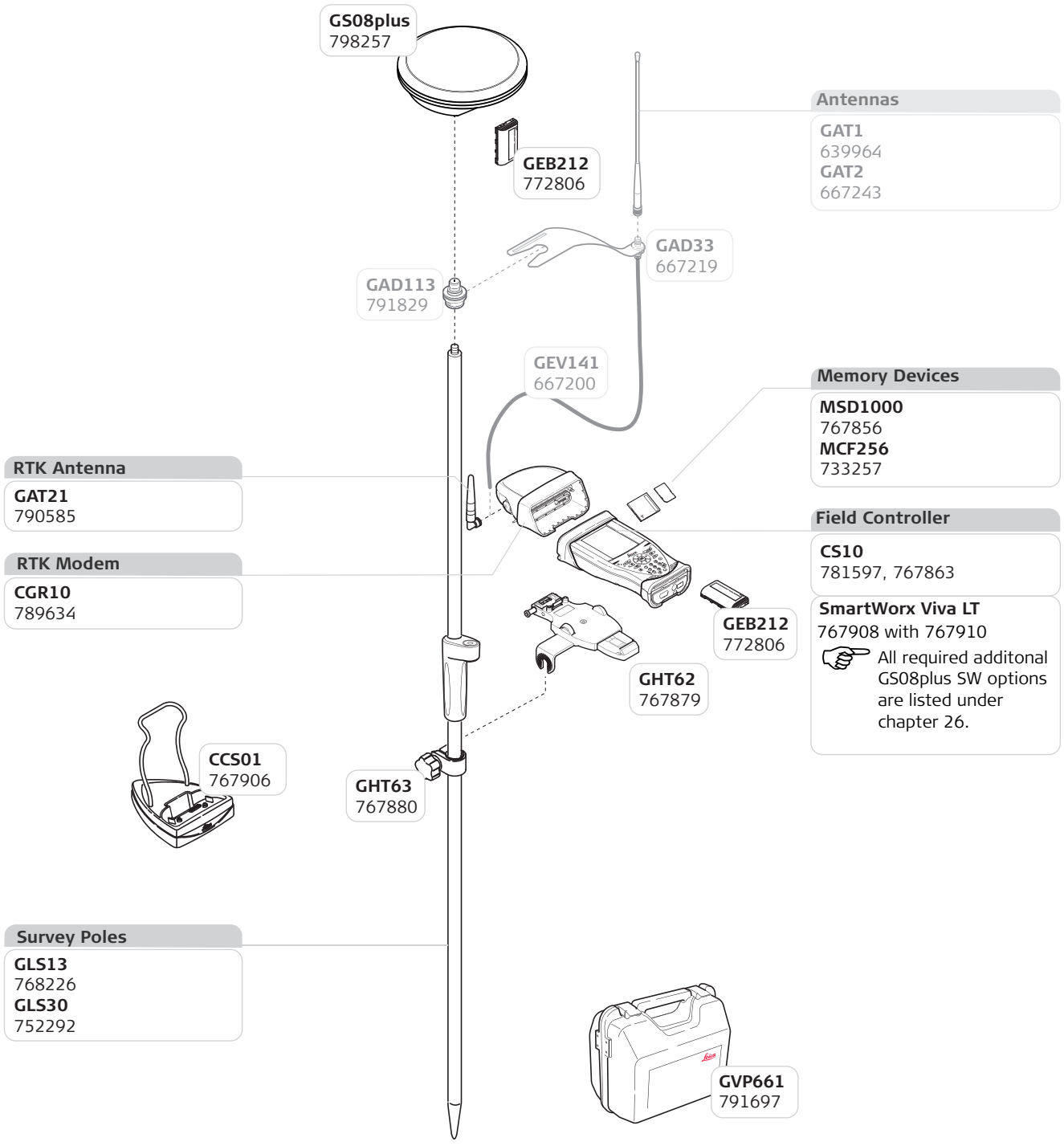
Please refer to the Leica TS11/TS15 or Leica TS30 and TM30 Equipment list for the usage of a GS12 receiver in a SmartPole or SmartStation setup.

51 GS08plus Real Time Rover - Pole Setup (Mobile Phone)



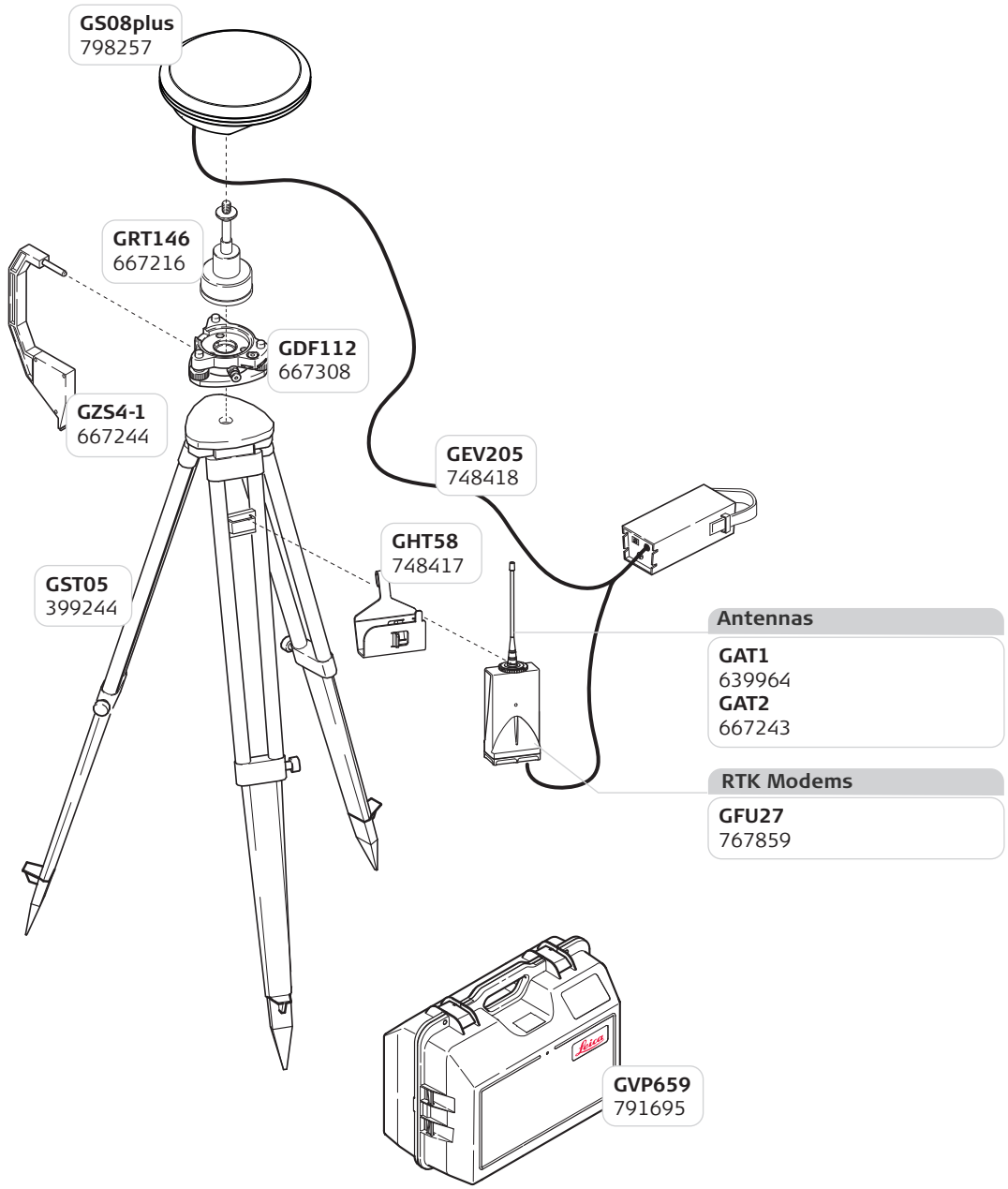
The GS08plus receiver cannot be used for a SmartPole or a SmartStation setup.

52 GS08plus Real Time Rover - Pole Setup (UHF Radio)



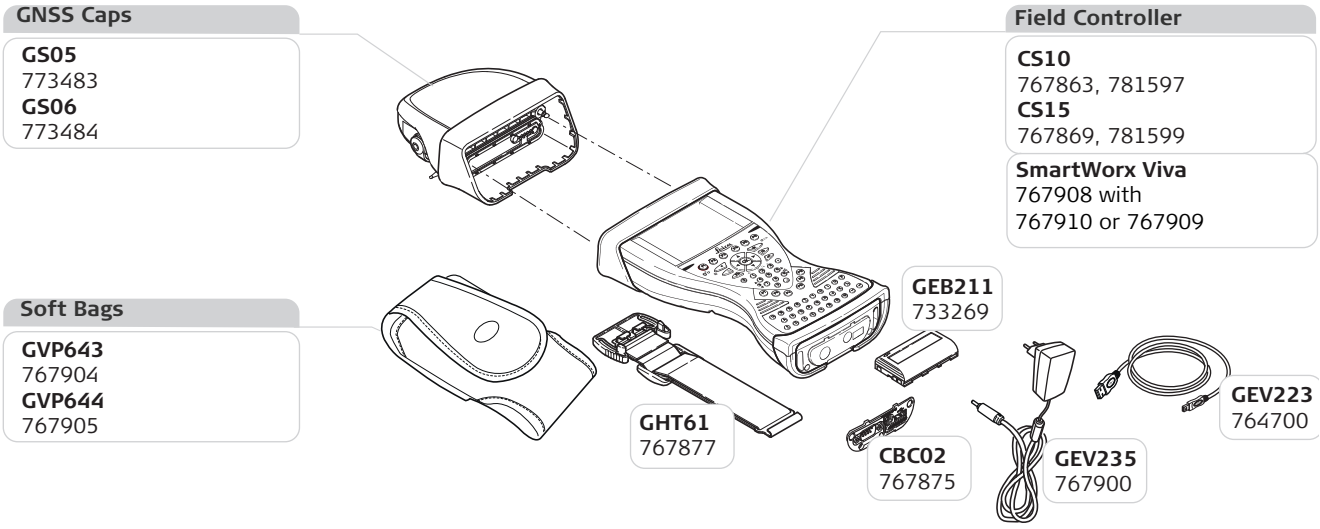
The GS08plus receiver cannot be used for a SmartPole or a SmartStation setup.

53 GS08plus GNSS Real Time Reference - Tripod Setup

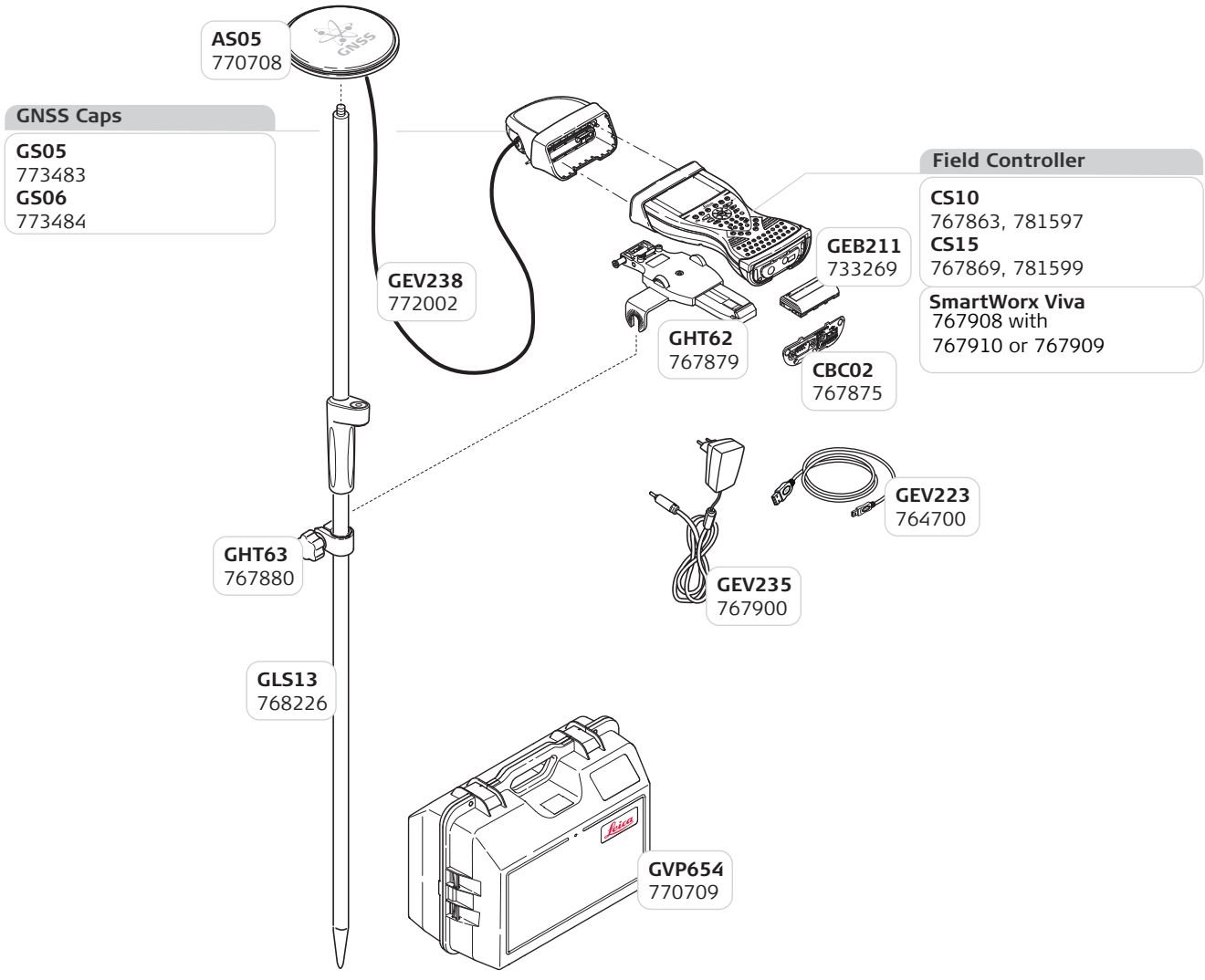


54 Viva Uno GNSS Receiver

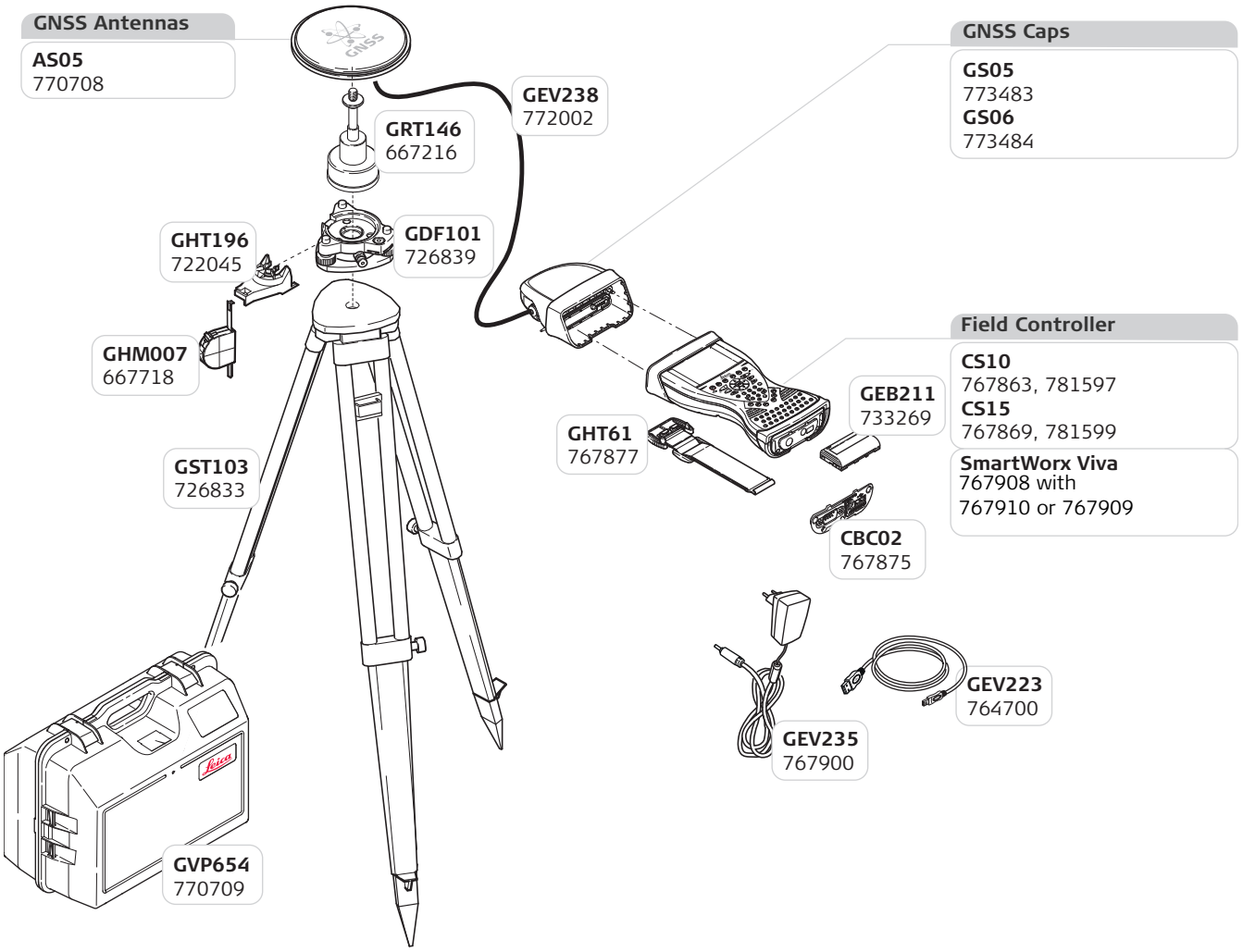
54.1 Viva Uno - Hand-held



54.2 Viva Uno GNSS Rover - Pole



54.3 Viva Uno GNSS Base - Tripod



Whether you want to stake-out an object on a construction site or you need accurate measurements of a tunnel or a bridge; whether you want to determine the area of a parcel of land or need the position of a power pole or to capture objects for as-built maps - you need reliable and precise data.

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